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CITY OF CAMBRIDGE

THE

MAYOR'S ADDRESS

AT THE

ORGANIZATION OF THE CITY GOVERNMENT,

JANUARY 4, 1892,

AND

THE ANNUAL REPORTS

MADE TO THE CITY COUNCIL

FOR THE YEAR 1891

CAMBRIDGE
HARVARD PRINTING COMPANY
1892

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ADDRESS

OF

HON. ALPHEUS B. ALGER,

MAYOR.

Gentlemen of the City Council:

Profoundly grateful to my fellow-citizens for the honor conferred upon me by their unanimous re-election to the highest office in their gift, I enter a second time upon the discharge of this responsible trust as the servant of the whole people, with an earnest desire and firm purpose of conducting the business of the city in an efficient, faithful and conscientious manner.

Your cordial and hearty co-operation is invited and is requisite to give our city this year an administration which will materially advance its growth and prosperity.

The ability and experience acquired in your respective business pursuits will prove of great value and worth in the consideration of and action on the important matters constantly arising, if in arriving at a decision upon them you apply the same conservatism, prudence and tact which govern and characterize your daily transactions.

Great and important undertakings begun in former

years are nearly completed, but others equally as essential and valuable in promoting the prosperity of the city and in securing its permanent development will engross your attention.

All such improvements entail largely increased expenditures, but such policy, if the city is to be permanently benefited by affording greater advantages and facilities for the introduction of new industries and opening new avenues for the investment of capital in the construction of buildings for homes or factories, will meet with the approval of our tax-payers.

Our citizens realize that the practical benefits of an administration largely depend upon the manner and character in which it is conducted. As public spirited men they demand the application of business principles in the decision of all questions affecting their interests and the exercise of economy and prudence in the execution and discharge of public work.

Upon your careful and judicious management of the affairs of the city, its future advancement and the prosperity of its inhabitants to a greater or less extent depend.

The tax-payers are to be congratulated upon the generally satisfactory condition of the various departments of the city, as appears in the reports of the different officers and boards in charge of the same.

Appropriations the past year were necessarily in excess of the preceding year to enable the city to make the improvements and perform the work required by the natural growth of the city in wealth

and population, but the cost of such improvements has been confined to the income of the city and no indebtedness has been incurred for current expenses.

Our energies should be directed in an endeavor to increase the resources and credit of the city by an economical management of its business entrusted to us, thus affording our citizens solid and substantial advantages in well kept and well lighted thoroughfares, in an abundant and pure supply of water, in excellent schools, yet keeping the tax rate down to a reasonable figure, that Cambridge may offer strong inducements to the stranger to come and take up his abode with us.

The reports of the various departments contain the interesting information of their operations the past year, and if the many excellent and sensible suggestions found therein were carried out and all the matters recommended were attainable, the city would unquestionably be greatly benefited. These suggestions will receive your candid and discriminating treatment. Where they appear to be reasonable, proper, conducive to the best interests of the city, and within its means, they will undoubtedly meet with your approval; but where they fail to impress their importance upon you, or their undertaking would involve the expenditure of a larger amount of money than would be at your disposal, or inconsistent with a prudent husbandry of the city's resources, then your support will be withheld.

Through the courtesy of the City Treasurer and Auditor, I am enabled to present the financial con-

dition of the city at the end of the last municipal year, November 30, 1891:—

FINANCES.

Receipts for the year		$2,396,512 55
Amount in City Treasury, December 1, 1890		55,949 06
Total		$2,452,461 61
Total expenditure for the year		2,346,525 14
Balance in City Treasury, December 1, 1891		$105,936 47
From which deduct unexpended on bond account :—		
Harvard Bridge	$7,158 84	
New High School	56,043 66	
Extension and widening of Front street	11,453 08	
Sewer Account	6,792 55	
Water Works Construction :		
Fresh Pond and Stony Brook	3,919 68	
		$85,367 81
And balance unexpended on account of interest due and unpaid on city debt		5,363 93
		$90,731 74
Leaving net balance in City Treasury, December 1, 1891, of		$15,204 73
Gross city debt, December 1, 1891		$2,294,000 00
Less amount in the city sinking fund		$651,826 93
Net city debt		$1,642,173 07
Gross water debt	$1,776,500 00	
Less water loan sinking fund	814,319 45	
Net water debt		962,180 55
Total city and water debt		$2,604,353 62

The city has the following *contingent* liabilities :—

Contingent loan, being a city note to the Trustees of the water loan sinking fund	$200,000 00
Trust funds :—	
Dowse Institute fund	10,000 00
Sanders Temperance fund	10,000 00
Daniel White Charity fund	5,000 00
	$225,000 00

FUNDED DEBT 1890 AND 1891 COMPARED.

	1890.	1891.
Gross city funded debt	$2,044,000 00	$2,294,000 00
Gross water funded debt	1,771,500 00	1,776,500 00
Gross funded debt	$3,815,500 00	$4,070,500 00
Less amount in both sinking funds	1,315,660 49	1,466,146 38
Net funded debt	$2,499,839 51	$2,604,353 62

Increase in 1891 net funded net, $104,514.11.

Bonds were issued in 1891 for the following purposes, viz. :—

For completion of new High School house (10 year loan, 4 per cent.)	$110,000 00
" " " Morse School house, Ward Four (10 year loan, 4 per cent.)	50,000 00
For renewal of certain drawbridges (10 year loan, 4 per cent.)	15,000 00
For construction of sundry sewers (20 year loan, 4 per cent.)	15,000 00
For completion of highway to Harvard Bridge, Front Street (30 year loan, 4 per cent.)	60,000 00
For general construction of water works, Water Board (20 year loan, 4 per cent.)	55,000 00
Total	$305,000 00

It will be seen that while the bonds, authorized and issued the past year, amount to the above sum of $305,000, yet through the operation of the sinking funds, the actual increase in the net funded debt of the city has only been $104,514.11.

During the past year $50,000 of the water debt have been paid, and of this debt $335.000 mature and will be paid the present year by the Water Sinking fund.

The building of the new High School house, authorized and its erection begun in 1889, has just reached completion and is now ready for occupancy. The expense of its erection was met by the issuing of bonds.

The Morse School house in Ward Four is at the present time in use; it was begun in 1890 and its payment was provided for in the tax levy of 1890, to

the amount of about $40,000, and by the issue of City Bonds in 1891 to the amount of $50,000.

Following in the line of other municipalities, the City Council the past year, enacted an ordinance abolishing the discount heretofore made on taxes paid on or before the tenth day of October. This change which was imperative to aid in bringing the total sum to be raised by taxation within the limit fixed by law, was met with proper spirit by our citizens, who seasonably paid their taxes, and thus enabled the city to promptly meet its obligations.

The borrowing capacity of the city December 1, 1891, for the current year will be $422,261.58, made up as follows, viz.:—

Average net valuation for 1889, 1890 and 1891	$66,577,386 00
2½ per cent. on same	1,664,434 65
Less net funded city debt	1,642,173 07
Leaving a margin of	22,261 58
To which may be added the exemption allowed by the Legislature on account of Harvard Bridge and Avenue . . .	400,000 00
Borrowing limit for the year	$422,261 58

I would respectfully suggest for the information of our tax-payers that the assessors be requested to put a value upon each and every parcel of real estate owned by the City of Cambridge, and that the several executive boards and heads of departments also be requested to furnish a schedule of all the real and personal estate under their charge, said schedule to specify in case of real estate the location, time of purchase of land and erection of buildings, the number of square feet of land contained in each lot, the assessors' valuation, and any other information relating to the same.

WATER WORKS.

The clear and concise statement of the condition of our Water Works is found in the twenty seventh annual report of the Water Board.

In connection with the supplemental reports of the Registrar, Superintendent and Engineer a full and accurate history of the workings of this department the past year may be obtained.

The total cost of the Water Works to November 30, 1891, amounts to $2,934,750.48, the sum of $67,015.65 having been expended the past year.

The receipts from water rates, fines, etc., amounted to $238,806.35. The expenditures were as follows:

For Maintenance account	$69,274 42
Supply account	6,810 80
Interest on water bonds	84,595 00
Payments to the sinking fund (being 3½ per cent. on $1,771,500, the amount of the unpaid water bonds)	62,002 50
Rent of box in Safe Deposit Vault	20 00
Salary of treasurer of sinking fund	200 00
Amount transferred to Street Department by City Council for rebuilding Concord Avenue opposite Fresh Pond Reservoir Land	12,400 00
Surplus of 1891 carried to sinking fund	3,503 63
	$238,806 35

COMPARATIVE STATEMENT IN RECEIPTS.

Water rates for the year 1890	$231,116 62
" " " 1891	227,054 53
Showing decrease of water rates in 1891	$4,062 09

This decrease is more apparent than real, and is accountable to the discount of ten per cent, made on water rates the past year.

By an examination of the expenditures it will appear that the sum of $12,400 was taken from

the surplus receipts from water rates and transferred to the street department for the purpose of rebuilding Concord Avenue from the railroad crossing to the Belmont line.

This amount, with the sum of $3,503.63 carried to the sinking fund, would make a surplus of $15,903.63 for the year 1891, as compared with one of $15,945 for 1890.

The City Council by providing for the payment of the general construction account by issuing bonds instead of by paying from the receipts of water rates, made possible such a reduction.

The rainfall at Stony Brook the past year has been the smallest for four years, yet more than eight thousand three hundred million gallons of water flowed into Charles River, beside what was drawn into Fresh Pond reservoir for our supply—an amount more than four times sufficient to meet our use.

It has been found necessary the past year to obtain permission of Waltham and Weston to draw water from the Stony Brook reservoir after it had ceased to flow over the dam. I heartily endorse the recommendation of the Board that this restriction as to the use of water from Stony Brook reservoir should be removed, and I suggest that the City Council take the proper steps to secure its repeal by the Legislature, or an amendment making it inoperative until Waltham and Weston, or either, shall take any portion of the water reserved for these places under the Act.

I would respectfully recommend that suitable ap-

propriations be made for the general construction account; to enable the Water Board to build suitable roads near the pond through the grove, and in front of the Boston Ice Company's building, thus completing the driveway around the Fresh Pond Reservoir and to fill up and grade the low lands for the better protection of our water supply.

In case the city lays out Huron Street, so called, as a public highway, and causes a bridge to be built across the Watertown Branch of the Fitchburg Railroad, the Water Board will be compelled to continue and build said street across land deeded to the city with this requirement.

This work would come under the general construction account, and should be provided for in the estimate for such account.

The three suits for the recovery of the value of lands taken by the city around Fresh Pond Reservoir have all been tried, and awards made in two of the cases by the Commissioners, to whom they were referred, but no final settlements have yet been effected.

There are now only a few small claims remaining unsettled, in connection with the taking of lands around Stony Brook Reservoir. The Commissioners' award in the Sibley case for land taken has not been accepted, as there are some questions of law, relating to the machinery claimed to be included in the taking by the city, which must be submitted to the Court.

The wall of the reservoir on Reservoir Street has been rebuilt in a thorough and substantial manner;

this work was begun in 1890 and completed the past year.

Your attention is respectfully directed to the importance of the erection of a large standpipe and the introduction of a larger pump in the near future, to meet the constantly increasing demands for the use of the High Service.

The Act of the Legislature of 1891 annexing to Cambridge the White estate in Belmont, provided that Adams, Grove and part of Cushing streets should be widened and put into good condition, and that Concord avenue from Adams street to Fresh Pond avenue be repaired by the city of Cambridge within two years from the approval of the Act, and permitted the city to use part of the surplus receipts from water rates to meet the expense of this work. The past year the sum of $12,400 of the receipts from water rates was appropriated and transferred by vote of the City Council to the Street department to repair Concord avenue from the Watertown Branch Railroad crossing to Adams street and this section of Concord avenue has been repaired in a manner to reflect great credit upon the head of our Street department.

I would respectfully recommend that an appropriation be made the present year by the City Council to carry out the repairs and widening of the other streets before enumerated.

These streets are the boundaries of our Water Works system, and, when put in good order, will prove a great improvement to our entire system.

A careful revision of the schedule of water rates has been made, and will go into effect May first of the present year; this cannot fail to meet the hearty approval of the consumers, and will prove a more equitable manner of effecting a reduction in the rates than has heretofore obtained.

I earnestly endorse the many excellent and timely suggestions of the Board that small and worn out pipes be replaced by new and larger ones, that the low places around the pond be filled and graded, thus improving the surroundings and protecting our supply from the contamination of stagnant water.

POLICE.

The officers and patrolmen comprising this branch of the City's service, deserve the commendation of every fair minded and law abiding citizen for the faithful and efficient performance of their duties.

The character and importance of their work the past year make a record which will bear favorable comparison with that of prior years.

Harmony and unity prevail in the force, and an earnest desire and purpose animate each member to maintain the present high standard of the department.

Only the ordinary and petty violations of law, which must be expected in a large city, seem to have been committed the past year; and the city has thus been fortunately free from the perpetration of crimes of a serious nature.

The force numbers at the present time eighty seven members, consisting of a chief, three captains, a

chief inspector, an inspector, eight sergeants and seventy one patrolmen.

Five additional men were appointed during the past year; two in the month of December, 1890, and three just prior to the opening of Harvard Bridge.

The total number of arrests the past year was 2,312 (2,096 males, 216 females; 1,905 adults, 407 minors).

During the past year property to the amount of $5,817.87 was reported to the department as lost or stolen; of which the officers of the force recovered $4,455, nearly 77 per cent. of the entire value.

The department was maintained at an actual expense to the city of $87,209.38.

The appropriations and estimated revenue for the department was $94,700.

The total expenditures of the department for the year	$98,363 28
The receipts amounted to	11,154 10
Showing actual cost to be	$87,209 38
Unexpended balance	1,490 82

When the annual appropriations were made it was deemed expedient to postpone the introduction of the Police Signal System into the Third Police District; but, later in the year, as the receipts of the department largely exceeded the estimated amount, an appropriation was made for that purpose, and the system of the Municipal Signal Company was adopted and thirteen signal boxes placed in that district at an expense of $1,897.00; the running of wire to connect these boxes was done by the Inspector of Wires, Mr. Morse, at a cost to the Police

department of $743, making the entire cost $2,640. A suitable stable has been secured and fitted up, in which the patrol wagon and horse are to be kept, and when the stable apparatus has been attached to the central office the system will be in complete working order.

The Police Signal System is an invaluable adjunct to the department, contributing greatly to the efficiency of the whole service.

There are now six or eight signal boxes, located and in use in the First Police district. By the introduction of eight or ten more boxes and the equipment of a central office, this district would be well covered. I heartily endorse the recommendation of the Chief of Police that this district should the present year receive the benefit of a complete system.

The city now has the system of the Gamewell and Municipal Signal Companies, and both are working in a satisfactory manner.

It is an imperative necessity that a new engine-house in East Cambridge for Engine Co. No. 3 should be erected at the earliest practicable moment.

The whole of the building is needed by the Police department, its present quarters being inadequate.

I recommend this matter to your earliest and most favorable consideration.

Your earnest and serious attention is called to the fact that one of our patrolmen, who has served long and faithfully upon the force, is practically incapacitated from further duty by old age; other members are reaching an advanced age, so that the time is

near at hand when, should they continue on the force, it must be materially increased by employing substitutes.

The Chief of Police again suggests that the City Council take some action towards pensioning such officers. Either this course should be pursued or authority be given the Police department to assign merely nominal duties to such officers at reduced wages, thereby permitting them to receive the benefits of the Police Relief Association, to which they are entitled only so long as they remain members of the Police force.

The subject is an important one, and merits your careful and deliberate judgment, which I am confident it will receive.

The Chief of Police recommends an addition of two men to the force, one each for the First and Third districts. I concur in this recommendation.

There is a strong feeling in the community, reaching almost a demand, that in addition to the night officer in charge of each station an extra officer should be assigned for duty in case of emergency.

To carry such a project into effect would require an increase of four men to the force. I believe this should be done, if the financial condition of the city will permit, and trust that the matter may be carefully considered.

The law against the illegal sale of intoxicating liquors has been well enforced the past year, as evinced by the fact that there were 142 searches made for liquor, and 97 convictions in the District Court.

The fines received by the city from 77 cases amounted to $7,480.

The same determined effort will be made the present year for the suppression of the illegal sale, traffic, transportation or keeping of intoxicating liquors in the city.

No honest and self respecting citizen, whether he votes for license or not, differs as to the enforcement of the law.

Persistent violators of any law are not entitled to the sympathy of a law abiding and orderly community, or to the forbearance of those in authority.

The active support and hearty cooperation of each member of the police force will be demanded that this as well as all other laws shall be strictly and impartially enforced, and the members will be held accountable for the exact observance of the laws and ordinances.

Patrolman Nickelson, who has been unable to perform active service the past year by reason of paralysis, died on the 29th day of last December.

He was appointed to the force in 1874, and, since his appointment, has performed his duty as an officer in a faithful and efficient manner.

FIRE DEPARTMENT.

The protection of life and property from the destructive and devouring flame depends upon this important department, which will be found from the interesting report of the Chief Engineer to be in a

good condition, and to have rendered the past year valuable and effective service.

The full complement of membership reaches 105 men (26 permanent and 79 call). Whatever may tend to increase the efficiency of the department should meet your prompt action.

The apparatus and equipment are in good condition and probably will need only the ordinary repairs during the present year.

The strength and efficiency of the department were greatly enhanced the past year by the addition of a new hose wagon and of a new steam engine built by the Manchester, N. H., Locomotive Works, of improved construction and capable of discharging 900 gallons of water per minute. They were put in commission May 11, 1891.

I heartily endorse the recommendation of the Chief Engineer to make the position of fireman of each steamer company a permanent one.

These appointees should be under thirty five years of age and should be instructed in the care and management of the engines and serve as substitutes for absent engineers.

Nearly all the engineers of our steamers are advanced in years and, naturally, vacancies will occur in their positions for which the plan suggested will provide competent and suitable men.

I respectfully renew my recommendation of last year for the establishment of the office of Assistant Chief Engineer.

While I believe the members of the department are

prompt to respond to alarms, and their services at fires have been uniformly praised and commended, I am of the opinion that great benefit would accrue from the creation of such an office, thereby assuring a better and more frequent inspection of the apparatus and equipment, and an improvement in the dicipline of the force. This recommendation meets with the approval of the Chief Engineer and I urge its early consideration.

The recommendation of the Chief Engineer for a new hose wagon to replace hose carriage No. 2, and for the purchase of a young and sound horse meets with my endorsement, and is respectfully called to your attention.

A new engine house in Ward Three should be constructed at the earliest possible date to furnish increased facilities to both the Fire and Police departments in that section of our city.

In this new engine house acommodations could be provided for the storage of spare apparatus.

Your careful and deliberate attention is called to the recommendation of the Chief Engineer for the purchase of a steam fire engine to be located in the vicinity of lower Cambridgeport, and of a chemical engine to be located in the westerly section of Ward One.

The growth in wealth and population has been so rapid, so many new business enterprises have been started and existing ones enlarged, that these additions to the department appear necessary to meet the demands of the citizens for better protection against fire.

Thirty three additional post hydrants have been located the past year, making the total number of hydrants in use 703.

The fire alarm telegraph formerly under the charge of the fire department was transferred to the care of the Inspector of Wires, who has also acted as Superintendent of the police signal system, since April 1891.

Appropriation for the past year	$66,826 93
	150 00
Estimated revenue	$66,832 93
Expenditures	66,773 83
Balance unexpended	59 10

BRIDGES.

The work of widening the passageway for vessels at the Boylston street bridge to the width of thirty-six feet as required by act of legislature was completed early last year at an expense of $8,590.91, which was borne equally by the cities of Boston and Cambridge.

The rest of the bridge will need to be replanked at an early date.

The contract for widening the passageway for vessels at the Brookline street bridge to 36 feet was, after much delay, completed in the spring of 1891, at an expense of $7,421.89 to be borne in equal shares by Boston and Cambridge. The Cambridge part of this bridge was replanked at about the same time at an expense of $718.50. The rest of the bridge is now in fair condition.

The Cambridge portion of the River street bridge was rebuilt and the Boston portion was widened to a uniform width of 40 feet, and the drawway made 36 feet. This work was completed in April, 1891, and tne whole cost was $13,096.98, part of which was paid by Boston. This bridge and the Sixth street bridge are now in good condition.

The drawway of the Western avenue bridge was widened to 36 feet, at an expense of $7,578.63, to be paid equally by Boston and Cambridge.

The portion of the bridge between that part rebuilt and the abutment on the Cambridge side is not in good condition. The bridge is narrow and is used by many heavy teams. It should be rebuilt at once and made uniform in width with the new part put in the past year.

The North avenue culvert at Alewife brook, with the cooperation of the Arlington authorities, was thoroughly rebuilt at an expense of $5,523.35.

An examination of the Walden street bridge showed it to be unsafe for travel. It was temporarily repaired at an expense of $245, permitting travel over the bridge to be resumed.

There is a question whether the City of Cambridge or the Fitchburg Railroad is charged with the duty of replacing or repairing this bridge. It is highly important that this responsibility be decided at an early date, as the bridge ought to be immediately rebuilt.

FRONT STREET AND ITS EXTENSION.

In January, 1891, the decision of the Railroad Commissioners requiring the City of Cambridge to con-

struct the avenue to the Harvard Bridge so as to cross the Boston and Albany freight railroad by an overhead bridge, was reversed by the Supreme Judicial Court, and shortly after, the commissioners revised their decision, in accordance with the opinion of the Court, by granting permission to the city to construct the avenue to cross the railroad at grade.

The whole roadway has been thoroughly built, the Telford, McAdam pavement being adopted, with sidewalks of cracked stone and stone dust.

Between the railroad and Harvard Bridge, a complete and independent system of surface drainage was introduced.

The expense of setting edgestones, grading and building the roadway by the Street Department has been	$43,788 10
The cost of drains, catch basins, etc., ...	7,071 25
Making the total cost of	$50,859 35

This avenue, the Cambridge approach to the Harvard Bridge, is a handsome, broad thoroughfare, and the roadbed is one of the finest in the city.

SEWERS.

During the past year 2.616 miles of sewers have been built, making the total length of sewers in the city 88.779 miles.

The total cost of construction of these sewers to date is $1,129,638.10.

The usual dredging has been done on the flats about the mouth of the Bridge street sewer and 3,590 cubic yards of material removed at an expense of $2,222.58, of which five-ninths was paid by the City

of Somerville and four-ninths by the City of Cambridge.

The Murray street sewer has been rebuilt and a small pipe sewer has been constructed near the new wooden sewer which will now serve as an outlet or storm overflow. This pipe sewer is intended to take only the house sewerage, and has an inclination from Charles River to Eliot square where the connection with the Metropolitan sewer will be made.

The channel of the Alewife brook has been cleaned out and deepened the past year from the gate house at Broadway, Somerville to the sewer outlet at Concord avenue, a distance of about 8,090 feet.

This work was done by day labor at an expense to date of $5,815.06, one or two small bills being outstanding.

The grade of the bed of the brook was lowered from two to three feet and the water way very largely increased. The condition of the brook has thus been vastly improved.

Appropriation for construction, "Sundry Sewers," and Maintenance	$55,213 04
Expended	52,893 68
Balance unexpended, "Sundry Sewers" Account ($1,792.55) and Maintenance Account ($526.81)	$2,319 36

The construction of the sewers has been done by the Superintendent of Sewers by day labor under the general direction of the City Engineer. The reports of these two officers will give the details of the construction and the cost of the different sewers built during the past year.

METROPOLITAN SEWERAGE SYSTEM.

The work of construction on this system has been continued during the past year.

The South Metropolitan Sewer is nearly completed, and will probably be in operation in the early part of this year.

The sewerage of Cambridge will be discharged through the North Metropolitan sewer. On this sewer there are completed or under contract $11\frac{188}{1000}$ miles, bringing the sewer to Alford street, in the Charlestown District of Boston.

One or more sections of this sewer may be constructed in Cambridge during present year.

The Commissioners appointed by the Supreme Court to apportion the cost of construction and the annual expense of maintenance and operation of this sewerage system among the eighteen cities and towns within the district, have made an award by which it will be necessary for Cambridge to pay the present year to the Commonwealth of Massachusetts on account of construction nearly $50,000 and on account of maintenance and operation nearly $5,500. This combined amount of $55,500 will be an annual charge to the city for the next five years, at the expiration of which a new apportionment will be made by the Commissioners.

The award of the Commissioners was based upon the method of apportioning the payments on account of the interest and sinking fund requirements of the loan (made by the Commonwealth), which represents

the first cost of the systems, with primary reference to the total taxable valuations of the several cities and towns; and the payments on account of the cost of maintenance and operation, with primary reference to their respective populations; such deductions or allowances being made in both cases in favor of any city or town as upon the facts justice and equity seemed to require.

The valuations of May 1, 1890, and the national census of that year, were used by the Commissioners for the purpose of apportionment, and to the total values of real and personal estate, as assessed by the local boards, were added the values, as furnished by the Tax Commissioner, of all bank and corporation stocks, ships and vessels, the taxes on which are paid or accrue under state laws to the several cities and towns. Under this award, therefore, Cambridge will be called upon for the next five years to pay to the commonwealth annually 27.87 per cent. of the amount of the Interest and Sinking Fund requirements on account of the cost of the construction of the North Metropolitan System, and 26.39 per cent. on account of the cost of its maintenance and operation.

The term of years covered by the award embraces the calendar years, 1891 to 1895, both inclusive.

STREETS.

The report of the Superintendent of Streets is a very concise and comprehensive statement of the work performed by the department this year, and is deserving of your thoughtful and careful perusal.

Nearly eighty thousand dollars of the appropriation for maintenance were expended for the collection of ashes, cleaning streets, the purchase of ten horses, the removal of snow and ice, crushing stone, repairing tools, carts and other implements, the maintenance of the stable, and repairs on the same, the reconstruction of the stone crusher and elevator, necessary supplies, and the salary of the Superintendent; over thirty three thousand dollars were actually used for the construction and repairs of streets, a large portion of the same having been expended for the latter purpose.

If we desire to see any improvement in our streets larger appropriations must be made for paving the important thoroughfares.

I would earnestly renew my recommendation of last year that bonds be issued this year for a sufficiently large amount to provide for the paving of Cambridge street from Columbia street to Inman square, of Central square, and the portion of Main street from Central square to Bigelow street. There are other streets which can be paved with profit to the city. The annual amount now expended in ordinary repairs on such streets would then be unnecessary.

The policy of issuing bonds for the payment of street paving has been adopted by all large municipalities.

The past year Cambridge street from the railroad crossing toColumbia street, a surface of about 7000 square yards, was paved at an expense of $17,791.21.

I concur with the Superintendent in his recommendation that a good gravel bank be purchased by the city, as such an acquisition is an imperative necessity.

Larger appropriations should be made for the construction of sidewalks petitioned for by abutters, who are willing to pay assessments for the same.

It is self evident that streets provided with substantial sidewalks and edgestones tend to decrease the cost of maintenance.

I would respectfully recommend that sidewalks, where needed, be laid on the westerly side of Main street from West Boston bridge to Quincy square. I believe that public convenience requires this.

All half crossings excepting when at the intersection of streets, in my opinion, should be removed, because by doing so, the streets can be kept in better repair ; more crossings should be laid in proper places for the convenience of the public.

The street watering the past year has been under the direction and supervision of a foreman. The Superintendent believes that this service would be more efficient if done by the city rather than by contractors. His suggestion should receive careful consideration, since street watering is now regarded as a necessity.

I would respectfully recommend that the city hereafter act under the law passed by the Legislature of 1891, which provides that a city of over thirty thousand population, may determine that all or any of the public streets within its limits shall be watered

in whole or in part at the expense of the abutters; such expense to be assessed upon their estates in proportion to the number of linear feet of each estate upon such street or portion thereof so watered.

By adopting this method the citizens and tax-payers would be relieved of the trouble and annoyance of collecting money for such purposes.

The Superintendent has completed the past year two important pieces of work, the construction of Front street and the rebuilding of a portion of Concord avenue; at large expense in both cases, but it was thoroughly done, and has received well deserved commendation.

Toward the close of last year the City Council authorized the widening of North avenue from Clarendon avenue to Alewife brook, which will practically make the avenue of uniform width.

The proposed widening of Harvard street from Quincy square to Harvard square is one worthy of consideration. This part of the street is much travelled, and if this improvement can be made at a reasonable expense, it should be undertaken.

The laying out of Huron street, so called, as a public highway, will largely aid in the development of the entire section of land in the vicinity of Fresh Pond, and will be early brought to your attention.

One of the most important actions taken by the city government last year was the passage of orders relating to the purchase of a portion of the Damon property for the extension of First street, and the building of a bridge across the flats at the mouth of Broad canal.

This will be of great value to the city, and should be carried out at the earliest practicable moment.

Before First street is accepted, it should be brought up to grade by the abutters.

The reclamation of the extensive tracts of riparian lands that surround Cambridge on two sides is a problem of the utmost importance to the community.

While in the past, sanitary considerations have forced upon the public the recovery of offensive low lands there are now in progress important undertakings at private cost looking to the improvement of wide areas of flowed territory in Cambridgeport and East Cambridge.

This must lead ultimately to numerous advantages; the removal of nuisances affecting the general health; the increase of taxable wealth, and the improvement in the appearances and approaches of the river districts.

Whatever may be reasonably done by the City Council to encourage and stimulate private undertakings of this character, so materially beneficial to the community at large, seems to be the part of a wise and liberal policy in municipal dealings.

STREET LIGHTING.

The streets of our city are lighted at night by means of electric and gas lights, oil and naphtha lamps.

From the report of the Superintendent of Lamps, it will be found that the appropriations for the department were . .	$49,050 65
Amount expended	47,989 92
Balance unexpended	$1,060 73

The price per lamp in arc lighting to June 1, 1891, was . . .	180 00
The price per lamp in arc lighting from June 1 to December 1, 1891, was	115 00
The average price for the year was	147 50
The average cost per lamp for all expenses in arc lighting was .	150 42
The price per lamp in incandescent lighting was	30 00
The cost per lamp for all expenses in incandescent lighting was	32 23½
The cost per lamp for all expenses in gas lighting was	29 14
The cost per lamp for all expenses in oil lighting was	18 41

The whole number of lamps of all kinds in use Nov. 30, 1891, was 1049, divided as follows:

Arcs	164
Incandescent	143
Gas	637
Oil	98
Naphtha	7

The Superintendent states in his report that while the principal thoroughfares are well provided with lights, many streets, named by him, with a large population located and living upon them, have no lights of any kind, making them, as a rule, difficult to travel upon after dark.

His recommendation that a sufficient number of lights be placed upon these streets to render them safe for public travel will meet with your careful attention.

A contract was made the past year with the Cambridge Electric Light Company for four hundred and twenty four arc lamps of 1,200 candle power at a greatly reduced rate, which were expected to be in use by the first day of last October; but owing to the difficulty of the company in securing poles of necessary size the work of putting in these lights has been delayed, which our citizens can plainly see is a financial detriment to the company. There are over three hundred of these lamps placed and in use at the present time. When

all are in service the city will be lighted in a satisfactory manner and will compare favorably in this respect with any other city of like area and number and length of streets.

A new contract for three years has been entered into with the Cambridge Gas Light Company providing for the use by the city of not less than three hundred gas lamps, each with a burning capacity of five feet during the hour of lighting at $1.25 per thousand cubic feet.

As under these contracts the city will be put to large expense this year, all petitions for additional lamps for lighting streets should be carefully considered before being granted, as it is believed that when all the lights provided for under these two contracts are in service the city will be brilliantly lighted and will have met all reasonable demands occasioned by growth in population and by the acceptance of new streets.

INSPECTOR OF WIRES.

The Inspector of Wires calls attention to the gratifying and satisfactory manner in which the several electric light companies are making various improvements.

The Cambridge Electric Light Company is now engaged in replacing its old poles by large and fine ones of such height as to enable the wires to be strung above the tops of the trees, thus rendering its service more reliable. The railroad wires will also be placed upon these poles, and the iron ones now in use removed.

A conduit has been laid by the Telephone company under the sidewalk on Front street, connecting with the Main street conduits. This company has also improved its lines by the introduction of metallic circuits, which have been run in a substantial manner, and also the appearance of several of our streets by replacing old lines of poles with new square poles.

In April of last year the Inspector of Wires was made the Superintendent of the Fire Alarm and Police Telegraph.

Under his direction the following work has been done: A third wire has been run for the Police signal system of District Two; the police private telephone line changed to a metallic circuit and new telephones introduced, and the wires for the Police signal system of District Three run; the private telephone line of the Fire Department has been changed to a metallic circuit, resulting in a better service, and a telephone has been placed in the fire alarm office with the exchange, of great value to the department, as two alarms have already been sent out through requests made by this telephone. The fire alarm telegraph has been improved by the introduction of a new circuit, giving five circuits in place of four, the original number over twenty years ago.

The city has been put to a large expense in replacing old wire with new, and in putting up larger and more substantial arms.

The Inspector urges the importance of an increase in the number of circuits to ten, that the best pos-

sible results and service from this system may be secured.

This subject I called to the attention of the last City Council, and I renew the recommendation to you as one which will greatly improve the efficiency of the fire department and remove the danger existing in a small number of circuits.

Your attention is directed to the inadequate accommodation now afforded the fire alarm office, located on the fourth floor of the city building in Brattle square; the repeater room is small and inconvenient and too far removed from the rooms occupied by the men.

The circuit cannot be conveniently divided from this building, and, in case of fire in the adjoining and adjacent buildings, such as the University Press, Moore's and Whitney blocks, and the wooden buildings in close proximity to these, the city might lose four of the five circuits, thus leaving the whole city, with the exception of Ward Four, without a telegraph system. Another place should be provided for the wagon belonging to this department, which is now kept under the stable connected with truck one, a location entirely unsuited for the purpose. Your attention is called to the importance of having a man permanently located in the office to test the circuits and receive notices of broken or misplaced wires.

In connection with the request of the Inspector of Wires for a change of location of the fire alarm telegraph, I would respectfully suggest the advisability of utilizing the old City Hall for department purposes.

The upper portion could be assigned to the Fire Alarm Telegraph office, and the lower portions for the Overseers of the Poor and Registrars of Voters, who have repeatedly called the attention of the City Council to the importance of having safe facilities for the preservation and protection of their valuable records. I believe that the city now needs the old City Hall to furnish proper room for these departments.

I would respectfully recommend the appointment by the City Council of a joint standing committee of two aldermen and three councilmen, to be designated the Committee on Electric Wires, to take into consideration the several matters requiring the attention of such a committee.

BRIDGES—WEST BOSTON, CANAL (CRAIGIE'S) AND PRISON POINT.

Substantial work the past year has been done on West Boston bridge under the direction of our efficient commissioner, Mr. Marvin, in repairing the westerly bulkhead, and the sidewalk, and adjacent roadway from the draw to the Cambridge abutment, and about one hundred feet of sidewalk on the same side near the Boston abutment. A new hard pine fence has been built for the entire length. These repairs were made at an expense of $10,820.50 one half of which is paid by Cambridge, the other by Boston.

The engine for turning the draw of the bridge has been provided with a new boiler, and the turning apparatus put in good order.

The commissioner calls attention to the fact that the westerly draw pier is in bad condition and should be strengthened the present year; that the roadway and sidewalk from the draw to the Boston end should be repaired, and the plank sides of the water way, and the bulkhead near the Charles River Embankment should also be repaired.

With this work done the bridge will be in as good condition as it is possible to put such an old and narrow structure.

The commissioner states that the need for a new, wider and more commodious bridge becomes more apparent and urgent each year.

Considering the fact that a large amount of money is annually expended in keeping this bridge in a safe condition for public travel, and the inadequate acommodation furnished by it, I would earnestly recommend the City Council to cause action to be taken to ascertain the probable cost of an iron bridge of sufficient width to meet the present and future demands of travel.

CANAL OR CRAIGIE'S BRIDGE.

This bridge is in fairly good and safe condition. The past year the foundation to the engine house on the draw pier was repaired.

The improvement of the remaining portion of the roadway of this bridge should receive attention. The fender on the westerly side is in bad condition, and should be repaired to furnish protection to the bridge. The sides of the water way require new plank-

ing, and the wooden draw and the piling on the Boston end will require early attention.

The draw pier of the Prison Point bridge has been replanked and ordinary repairs made to the roadway, and machinery for moving the draw.

Amount received for dockage, rent, etc., $316.70, and from Boston Park Commissioners for Cambridge's interest in the old toll house on West Boston bridge $1,525.50.

HARVARD BRIDGE.

By the opening of the Harvard bridge, the public derives the great advantage of possessing a broad, safe and convenient avenue for carriages and teams, and a beautiful promenade for pedestrians. The distance between Boston and Cambridge is materially shortened. The bridge, while not entirely completed, was opened the first day of September, 1891, and on the same day public travel was permitted on Front street.

The bridge is now lighted with incandescent lights, but, in case of accident the bridge, on the Boston side can be lighted by gas, and a contract has been given to theCambridge Gas Light Company to pipe the Cambridge side, which work will be done in the early spring.

Asphalt sidewalks were laid the last of August and the first of September; they are wearing satisfactorily.

An electric motor has been purchased and attached to the bridge, for the purpose of moving the draw. The electrical power will be furnished by the Cambridge Electric Light Company by meter.

The bridge is substantially completed, only a few things remaining to be done before it can be transferred to the cities of Boston and Cambridge by the Board of Harvard Bridge Commissioners.

I would respectfully recommend that the City Council at an early day designate by ordinance in whose charge and care Harvard bridge shall be placed. In the disposition of this question, the City Council might also consider the advisability of placing under the control and care of one official, all the bridges in which Boston and Cambridge are mutually interested and are bound by law to keep in repair and maintain.

Mr. Marvin, the efficient commissioner of West Boston, Craigie's and Prison Point bridges, holds such office under act of the legislature; the other bridges, outside of the Harvard bridge, are under the charge of the superintendent of streets. To perfect a consolidation all the bridges now in charge of the superintendent of streets could be transferred to the care of the commissioner, Mr. Marvin, or a petition could be sent to the Legislature praying for appropriate legislation to permit the West Boston, Craigie's and Prison Point bridges to be placed under charge of the superintendent of streets.

Inasmuch as the repairs on all these bridges have been done by contract, it seems to me the proper course to pursue in the matter would be to place all these bridges under the care of Mr. Marvin, as the superintendent of streets might profitably devote all his time to the inspection and repairs of nearly 100 miles of streets.

The whole question, however, is submitted for your careful action.

SCHOOLS.

Our schools are in excellent condition and their present high standard should be maintained.

The city is fortunate in the possession of an earnest and devoted corps of instructors, who, under the able and wise supervision of the Superintendent of Schools, are exerting their best efforts to impart information and to mould the character of the young, thereby training them to become good and industrious citizens, and active, intelligent men and women, capable of meeting the responsibilities of life.

The members of the School Committee are enthusiastic in their desire to promote in every way the interest of our schools that they may attain the highest development.

Their zeal in this direction is laudable and meets with the approval of our citizens.

The committee should cooperate with the City Council in their efforts to aid the taxpayers by not exceeding unnecessarily the appropriations, which at the same time should be liberal enough to insure a high standard, in keeping with the rapid growth of our city and its wide spread reputation for learning.

Last year the City Council in the annual appropriation budget, for lack of funds, failed to make any appropriation for the support of kindergarten schools. This failure to appropriate and the reasons

therefore were communicated to the School Committee, who declined to discontinue the system, which is not compulsory under the law of the State, and which only four cities or towns in the Commonwealth maintain at public expense, causing the expenditures of the department to exceed the appropriation nearly $5000.

While admitting the power of the School Committee to contract liabilities which the city must meet, permit me to express the hope that this body, as sound financiers, will aid the city in its present financial stress, by refraining from the adoption of permissive legislation.

The city expended last year over two hundred and fifty thousand dollars for the maintenance of our public schools, and one hundred and seventy five thousand dollars for the erection of new school houses.

SCHOOL STATISTICS FOR 1891.

Number of pupils on the first of December	11,301
Number of teachers on the first of December	272
Cost of the day schools not including expenditures for new school houses	$249,491 67
Increase over last year,	7,510 83
Cost of the schools per pupil	23 71
Decrease over last year	27

The Morse school house was occupied for the first time on the twenty second day of last September; the new English High school building will be ready for use by the middle of the present January.

The School Committee recommend that the school house now used by the English High School be thoroughly repaired, and an entire change made in

the method of heating and ventilating the building before it is occupied by the Latin school.

The Bridge primary school house situated on Pioneer street should be discontinued as discreditable to our city, and a new four roomed brick school house should be erected on the city's land on the southwest corner of Broadway and Sixth street.

This Bridge school house is similar to the Front street school house which has already been discarded by the School Committee.

Both these buildings and the lots on which they stand should be sold.

PUBLIC LIBRARY.

The Trustees have managed the Public Library the past year in a liberal, progressive and wise manner, and with an untiring devotion to its interests and needs.

It is gratifying to note a more extended use of the Library and the higher standard of books taken therefrom by those availing themselves of its privileges.

The citizens' fund, which has been expended in the purchase of books not permitted by the appropriation, is nearly exhausted, and I sincerely trust our wealthy and public spirited citizens will continue to give financial support in this direction.

The comity existing between the officials of the Harvard College library and the Trustees of our Public library has been productive of good results, mutually advantageous to the patrons of both libraries.

Liberal appropriations should be made for the maintenance of the library, which is such a potent factor for good in our city.

CAMBRIDGE CEMETERY AND OLD BURIAL GROUND.

The usual amount of work in grading and the laying out of lots and paths has been done the past year at the cemetery under the supervision of the efficient and competent superintendent, who has discharged his duties in a manner to reflect credit upon our city.

The fence and gateway at the entrance to the cemetery are very much decayed and out of repair. The gateway is liable to be blown down by any high wind, and the city should provide at an early date for the erection of a suitable new one to replace the present one, which was erected November 1, 1854.

The Cemetery Commissioners, believing that the ancient stones and tablets in the old burial ground near Harvard square were worthy of their care and attention, and that an earnest endeavor should be made to add to the attractiveness of the ground where lie the remains of illustrious and honored dead, the history of whose lives is inseparably linked with that of the early town and city of Cambridge, and that the prominent features of this old burial ground should be preserved, have caused the removal of the old wooden fence which was built in 1859, and have had a neat, substantial, wrought iron fence built at an expense of $2,115. A change in the grade of much of the ground adjoining was made necessary by the erection of this fence, and with the general care and repairs has required the additional sum of $275,

making the total expenditure on this burial ground the past year $2,390.

This improvement was needed and has met with the approval of our citizens.

The fund for Perpetual Care amounts to $20,677.95.

Appropriation for both Cemetery and Burial Ground	$19,000 00
Expenditures	18,131 22
Balance unexpended	$868 78
Receipts for the past year	$17,531 52
There is a deficit of revenue under the estimate of	1,468 48

The total number of interments to November 30, 1891, is 17,769.

ALMSHOUSE AND THE POOR.

Frequent inspections of the almshouse have been made during the past year by the Overseers of the Poor, in whose care this institution is placed.

Everything has been done to make the inmates comfortable and contented; excellent discipline has prevailed and the premises have been kept in a neat and orderly manner, and made as attractive as possible.

The Overseers of the Poor have managed the affairs of this department wisely, prudently and humanely, and deserve the commendation of our citizens for the conscientious and faithful discharge of their trust.

The liberal support of our city will be cheerfully extended for the necessary relief of our worthy poor, consisting of the mildly insane, the aged, the infirm, the sick, and the abandoned and neglected young, all homeless and friendless.

The superintendent and matron are sympathetic and are ready to alleviate the sufferings and troubles of

their charges, and they will see that the inmates receive kind treatment in this institution.

There are some persons whom I regret exceedingly to find at the almshouse. They are the young boys who have been committed to the care of the Overseers of the Poor for habitual truancy or for some violation of the rules of school.

The almshouse is not in my opinion a suitable place in which they can receive proper education and training.

If the city cannot afford to build a separate school for the truant boys of our community, I would respectfully recommend that the legislature be petitioned for the establishment of one or more truant schools by the County of Middlesex, to meet the demands of the different cities and towns in the county, a course already adopted in other counties of the state.

I am fairly convinced that for the future good of these young boys, they should be moved to another place for discipline and instruction as soon as arrangements can be made for such a desirable change. The room now occupied by the truants is greatly needed for hospital uses: I refer the matter to your thoughtful attention.

The receipts for the year 1891 from almshouse, farm, ledge, and house offal were $21,245.97, an increase of $2,595.49 over those of 1891.

The total number of inmates November 30, 1891, was 133.

PARKS.

The City of Cambridge should take the earliest opportunity to begin a park system for her inhabitants.

Beyond a few open spaces like the Common, the city has no parks. The Fresh Pond reservoir will in time prove as popular as Chestnut Hill reservoir, and when the low lands are filled will afford a place for rest and recreation.

A commission is now considering the possibilities of the Charles river basin. With the sewerage removed from this river, there is a splendid opportunity of forming one of the finest water parks to be found in any city in the country; a series of beautiful parks and boulevards might be located along the banks of this river.

I renew my recommendation that additional land in the vicinity of Fresh Pond and the river be taken for park purposes.

I feel that this subject will receive your hearty support.

NEW CITY CHARTER.

At the recent city election the new charter submitted to the voters for their action was adopted by a substantial majority, and its acceptance by the people promulgated December 15, 1891, by the Board of Aldermen.

The radical change adopted in the methods of our administration is in the separating of the executive

and administrative branches from legislative functions.

Under its provisions, the executive powers of the city are vested in the mayor, to be exercised through the several officers and boards of the city in their respective departments, under his general supervision and control; the legislative functions are to be exercised by the City Council.

As soon as the provisions of the new charter are thoroughly understood, and the various ordinances inconsistent with its requirements are repealed, the difference in the methods of municipal government will become apparent.

NECROLOGY.

During the past year God, in His providence has removed many of our citizens prominent in public life. Mr. Leander Greely, a well known business man of Cambridge began his public service in the City Council, of which he was a member in the years 1868, 1869 and 1870; later in the years 1875 and 1876 he was a member of the Board of Aldermen, giving faithful and earnest services to the city while a member of the respective branches of its government.

At the time of his decease he was a member of the Board of Cemetery Commissioners, and of the Board of Harvard Bridge Commissioners. He was a man of sincerity and remarkable force of character, and brought to all the public trusts he was

called to assume strict integrity and sound judgment.

Judge Chester F. Sanger, a young man of exemplary and sterling character; in his death the city loses one of its most useful and valued public officials. He served in the Common Council in 1887, and was a representative to the General Court for two successive years, in 1888 and 1889, and in 1889 was appointed judge of the Third District Court of Eastern Middlesex. To the duties of these offices he applied himself with earnestness and energy; and his administration of his judicial position was marked by intelligence and strict impartiality; he was an approachable and affable gentleman.

Hon. Knowlton S. Chaffee, one of the oldest and best known residents of Cambridge and for nearly half a century an active business man. He served faithfully the city in both branches of the city government, and in the Water Board. He represented Cambridge in the House of Representatives and in the Senate of Massachusetts. He was a man of industry, enterprise and marked ability. In all the public positions he held, he discharged his duties with great fidelity and uprightness.

Ex-Mayor Henry H. Gilmore began his service among us as a member of the Common Council; he also served in the Board of Aldermen for two years.

In 1884 he represented Cambridge in the Massachusetts Senate, and was a Harvard Bridge Commissioner for two years.

He was the esteemed and honored mayor of the city in the years 1889 and 1890 and a valued member of the Public Library Trustees for several years.

His loss will be deeply felt; he was a man of character and ability who discharged every trust with a singleness and honesty of purpose which characterized his private and public life.

Gentlemen of the City Council: It has been my endeavor in this review of the work of the past year and the needs of the present to point out briefly a few of the changes and improvements which seem necessary and desirable to increase the comfort and convenience of our citizens and the attractiveness and prosperity of our city.

It depends largely upon your considerate and well advised action, whether these improvements become effective.

Let true econmy be the supreme rule in directing our action in the government of our city, so that the municipal administration of the present year may claim the lasting gratitude and respect of the taxpayers.

Let harmony and conciliation control our intercourse with one another. Grave and important responsibilities alike rest upon all, and each one of us must assume his share of the burden.

Be assured that every undertaking conducive to the best interests of the city will receive my earnest support and hearty cooperation.

There will undoubtedly be differences of opinion on many questions, but mutual forbearance will inspire confidence in the honesty of our purpose.

All *our* strength is in *our* union ;
All *our* danger is in discord.

Let the government of this year be so conducted that it shall be above suspicion. Let us by meeting the just demands of our fellow citizens by a wise and progressive administration merit a continuance of their confidence and the approval of our own consciences.

ANNUAL REPORT

OF THE

AUDITOR OF ACCOUNTS.

OFFICE OF THE CITY AUDITOR,
CITY HALL, Dec. 1, 1891.

To the Honorable City Council:

GENTLEMEN: In conformity with the requirements of the City Ordinances, the undersigned herewith presents the forty-fifth ANNUAL REPORT OF THE RECEIPTS AND EXPENDITURES of the

CITY OF CAMBRIDGE

for the financial year commencing December 1, 1890, and ending November 30, 1891.

Respectfully submitted.

HARRY T. UPHAM,
City Auditor.

The balance in the treasury November 30, 1890, was			$55,949 06
Receipts from all sources during the year were as as follows :			
From City Departments (as shown in detailed statement)		$131,538 40	
From Water Department (as shown in detailed statement)		245,440 71	
From Betterments (extension and widening of Front Street)		26 43	
From Cemetery Fund (amount received for "perpetual care of lots")		1,419 75	
From sale of Bonds :			
Bridge Bonds	$15,000 00		
Harvard Bridge	60,000 00		
High School	110,000 00		
Morse School	50,000 00		
Sewer	15,000 00		
Water	55,000 00		
		305,000 00	
Amounts carried forward		$683,425 29	$55,949 06

Amounts brought forward		$683,425 29	$55,949 06
From sale of City Lands		293 00	
From temporary Loans in anticipation of Taxes		465,000 00	
From Taxes:			
Corporation Tax	$59,000 30		
National Bank	17,639 12		
1887	200 40		
1888	160 00		
1889	2,826 50		
1890	89,611 40		
1891	1,028,251 30		
From Tax Lien	102 24		
From Tax Sale Surplus	3 00		
		1,197,794 26	
From Trustees Sinking Fund Water Works (for payment of Water Debt)		50,000 00	
Total receipts			$2,396,512 55
			$2,452,461 61
The payments have been as follows: —			
For City Departments (as shown in detailed statement)		$1,406,924 85	
Water Department (as shown in detailed statement)		297,901 16	
For Abatements, Taxes		19,719 39	
Cemetery Fund (invested)		1,419 75	
City Debt: —			
Temporary Loan	$465,000 00		
Water Loan	50,000 00		
		$515,000 00	
Taxes: —			
County Tax	$49,851 13		
National Bank Tax	6,851 10		
State Tax	46,440 00		
Tax Liens	1,988 57		
Tax Sale, "Surplus"	429 19		
		105,559 99	
Total Payments			2,346,525 14
Balance in the Treasury, Nov. 30, 1891			$105,936 47
Amount carried forward			$105,936 47

Amounts brought forward . .		$105,936 47
The balance in the Treasury is subject to draft as follows :—		
Harvard Bridge Account	$7,158 84	
Front Street Accounts	11,453 08	
Interest Account	5,363 93	
High School Account	56,043 66	
Fresh Pond Land Account	3,919 68	
Sewer Account	6,792 55	
		$90,731 74
Leaving a net balance of		$15,204 73
		$105,936 47
For the extraordinary expenses, bonds have been issued as follows:—		
New High School Building	$110,000 00	
New School House in Ward Four (Morse School)	50,000 00	
Filling and grading Front Street . . .	60,000 00	
Construction of Sundry Sewers . . .	15,000 00	
Construction of Water Works	35,000 00	
Land Takings around Fresh Pond . . .	20,000 00	
Widening Sundry Draw-bridges . . .	15,000 00	
		$305,000 00

CITY FUNDED DEBT.

There has been an addition to the City Funded Debt during the year of $250,000.00, caused by the issue of coupon bonds as follows:—

Bridge Loan, coupon bonds dated payable in ten years, at an annual interest of four per cent. (Widening of Draw-bridges on Charles River)	$15,000 00
Harvard Bridge Loan, coupon bonds dated payable in thirty years, at an annual interest of four per cent. (Filling and Grading Front Street as an Avenue to Harvard Bridge)	60,000 00
High School Loan, coupon bonds dated payable in ten years, at an annual interest of four per cent. (New High School-House)	110,000 00
School House Loan, coupon bonds dated payable in ten years, at an annual interest of four per cent. (Morse School-House)	50,000 00
Sewer Loan, coupon bonds dated payable in twenty years, at an annual interest of four per cent. (Construction of Sundry Sewers)	15,000 00
	$250,000 00

There has been an addition to the Water Debt of the city during the year of $55,000.00 caused by the issue of coupon bonds as follows:—

Construction, general, coupon bonds dated Oct. 1, 1891, payable in twenty years at an annual interest of four per cent.	$35,000 00
Fresh Pond Land Loan, coupon bonds dated payable in twenty years at an annual interest of four per cent. (Purchase of land on border of Fresh Pond)	20,000,00
	$55,000 00
Of the Water debt of the City, there have matured during the year bonds amounting to	50,000 00
Increase on Water Debt	$5,000 00

The following is a statement of the temporary loans negotiated during the year :—

Date.	Negotiated with	Rate per cent.	Due.	Amount.
Jan. 1, 1891,	Trustees of Water Loan Sinking Fund	5⅜	Oct. 12, 1891	$75,000 00
Jan. 16, 1891,	Commissioner of Sinking Funds of Cambridge	5	Oct. 12, 1891	30,000 00
Jan. 28, 1891,	Cambridgeport Savings Bank,	4¾	Oct. 12, 1891	50,000 00
Mar. 25, 1891,	Commissioners of Sinking Funds of Boston	4¼	Oct. 13, 1891	100,000 00
April 25, 1891,	First National Bank of Cambridge	4 1/10	Oct. 15, 1891	50,000 00
June 26, 1891,	First National Bank of Cambridge	4½	Oct. 15, 1891	100,000 00
Sept. 11, 1891,	N. E. Trust Co. of Boston . .	4½	Oct. 16, 1891	60,000 00
				$465,000 00

THE FUNDED CITY DEBT.

The following is a statement of the total funded debt of the city, with the rates of interest thereon :—

Bridge Loan.

Date of Issue.	Rate of Interest.	When Due.	Amount.	Total.
Oct. 1, 1887	4 per cent.—30 yrs.	Oct. 1, 1917	$10,000 00	
July 1, 1888	4 " —30 "	July 1, 1918	100,000 00	
Sept. 1, 1888	4 " —30 "	Sept. 1, 1918	100,000 00	
Mar. 1, 1889	4 " —30 "	Mar. 1, 1919	115,000 00	
Nov. 1, 1890	4 " —30 "	Nov. 1, 1920	5,000 00	
July 1, 1891	4 " —30 "	July 1, 1921	60,000 00	
July 1, 1891	4 " —10 "	July 1, 1901	15,000 00	$405,000 00

City Loan.

Mar. 5, 1863	5 per cent.—30 yrs.	Jan. 1, 1893		$150,000 00

Land Loan.

July 1, 1873	6 per cent.—20 yrs.	July 1, 1893	$10,000 00	
Aug. 1, 1888	4 " —10 "	Aug. 1, 1898	83,000 00	$93,000 00

Paving Loan.

Date of Issue.	Rate of Interest.	When Due.	Amount.	Total.
July 1, 1873	6 per cent.—20 yrs.	July 1, 1893	$100,000 00	
July 1, 1874	6 " —20 "	July 1, 1894	130,000 00	
July 1, 1875	6 " —20 "	July 1, 1895	25,000 00	$255,000 00

School-House Loan.

May 1, 1890	4 per. cent—10 yrs.	May 1, 1900	$100,000 00	
Jan. 1, 1891	4 " —10 "	Jan. 1, 1901	100,000 00	
July 1, 1891	4 " —10 "	July 1, 1901	60,000 00	$260,000 00

Sewer Loan.

Oct. 1, 1875	6 per cent.—20 yrs.	Oct. 1, 1895	$20,000 00	
July 1, 1876	6 " —20 "	July 1, 1896	29,000 00	
Nov. 1, 1886	3½ " —10 "	Nov. 1, 1896	25,000 00	
July 1, 1873	6 " —30 "	July 1, 1903	136,000 00	
July 1, 1874	6 " —30 "	July 1, 1904	295,000 00	
July 1, 1875	6 " —30 "	July 1, 1905	144,000 00	
Nov. 1, 1887	4 " —20 "	Nov. 1, 1907	30,000 00	
Nov. 1, 1889	4 " —20 "	Nov. 1, 1909	22,000 00	
May 1, 1890	4 " —20 "	May 1, 1910	15,000 00	
July 1, 1891	4 " —20 "	July 1, 1911	15,000 00	$731,000 00

Street Loan.

July 1, 1873	6 per cent.—20 yrs.	July 1, 1893		$13,000 00

Street Widening Loan.

Nov. 1, 1889	4 per cent.—10 yrs.	Nov. 1, 1899	$8,000 00	
July 1, 1873	6 " —30 "	July 1, 1903	10,000 00	
July 1, 1874	6 " —30 "	July 1, 1904	90,000 00	
July 1, 1875	6 " —30 "	July 1, 1905	14,000 00	$122,000 00

Municipal Loan.

April 1, 1885	4 per cent.—10 yrs.	Aug. 1, 1895		$200,000 00

Cambridge Cemetery Loan.

Aug. 1, 1885	4 per cent.—20 yrs.	Aug. 1, 1905		$65,000 00

TOTAL FUNDED CITY LOAN $2,294,000 00

THE FUNDED WATER DEBT.

Following is a statement of the total funded water debt of the city, with rates of interest thereon :—

Date of Issue.	Rate of Interest.	When Due.	Amount.	Total.
May 1, 1871	6 per cent.—20 yrs.	July 1, 1892	$335,000 00	
April 1, 1874	6 " —20 "	April 1, 1894	150,000 00	
Nov. 1, 1884	4 " —10 "	Nov. 1, 1894	36,000 00	
April 1, 1875	6 " —20 "	April 1, 1895	160,000 00	
July 1, 1876	6 " —20 "	July 1, 1896	103,000 00	
July 1, 1877	6 " —20 "	July 1, 1897	16,000 00	
July 1, 1878	5 " —20 "	July 1, 1898	12,500 00	
Nov. 1, 1886	3½ " —20 "	Nov. 1, 1906	43,000 00	
Oct. 1, 1887	4 " —20 "	Oct. 1, 1907	90,000 00	
Nov. 1, 1887	4 " —20 "	Nov. 1, 1907	22,000 00	
July 1, 1888	4 " —20 "	July 1, 1908	46,000 00	
Aug. 1, 1888	4 " —20 "	Aug. 1, 1908	25,000 00	
July 1, 1889	4 " —20 "	July 1, 1909	20,000 00	
May 1, 1885	4 " —25 "	May 1, 1910	288,000 00	
July 1, 1890	4 " —20 "	July 1, 1910	75,000 00	
Sept. 1, 1890	4 " —20 "	Sept. 1, 1910	125,000 00	
Jan. 1, 1891	4 " —20 "	Jan. 1, 1911	20,000 00	
April 1, 1886	3½ " —25 "	April 1, 1911	100,000 00	
July 1, 1886	3½ " —25 "	July 1, 1911	75,000 00	
Oct. 1, 1891	4 " —20 "	Oct. 1, 1911	35,000 00	$1,776,500 00

Recapitulation.

Amount of funded City Loan upon which interest is at 6 per cent.		$1,016,000 00
Amount of funded City Loan upon which interest is at 5 per cent.		150,000 00
Amount of funded City Loan upon which interest is at 4 per cent.		1,103,000 00
Amount of funded City Loan upon which interest is at 3½ per cent.		25,000 00
		$2,294,000 00
Amount of Water Loan upon which interest is at 6 per cent.	$800,000 00	
Amount of Water Loan upon which interest is at 5 per cent.	12,500 00	
Amount of Water Loan upon which interest is at 4 per cent.	782,000 00	
Amount of Water Loan upon which interest is at 3½ per cent.	218,000 00	
		$1,776,500 00

Temporary loans for the past ten years, and interest paid upon the same:—

Year.	Temporary Loan.	Interest paid upon the Loan.
1882	$525,000	$9,720 05
1883	600,000	14,880 25
1884	540,000	15,795 37
1885	300,000	13,790 52
1886	450,000	5,653 83
1887	555,000	9,222 24
1888	400,000	9,497 36
1889	490,000	5,919 54
1890	425,000	7,570 57
1891	465,000	10,796 25

The Trust Funds

Assumed by the City are held by trustees, and interest is paid upon them at the rate of six per cent. annually, as follows:—

Name of Fund.	Amount.	Interest.	
Daniel White Charity Fund	$5,000	at 6 per cent.	$300
Dowse Institute Fund	10,000	at 6 per cent.	600
Sanders Temperance Fund	10,000	at 6 per cent.	600
	$25,000		$1,500

Sinking Funds.

Amount of Fund Nov. 30, 1890		$549,905 82
RECEIVED.		
From City Treasurer, being amount appropriated by the City Council to be derived from taxation	$74,805 00	
Interest accumulations	27,116 11	
		101,921 11
Amount of Fund Nov. 30, 1891		$651,826 93

Sinking Fund of Water Works.

Amount of Fund Nov. 30, 1890		$765,754 67
RECEIVED.		
From City Treasurer for amount due and appropriated from the revenue of the Water Works	$62,002 50	
From surplus revenue of Water Works . .	3,503 63	
From interest accumulations	33,058 65	
		98,564 78
		$864,319 45
EXPENDED.		
For Water Bonds, matured May 1, 1891 . .		50,000 00
Amount of Fund, Nov. 30, 1891		$814,319 45

Cemetery Fund.

Amount of Fund, Nov. 30, 1890		$20,975 53
RECEIVED.		
For perpetual care of lots in Cambridge Cemetery	$1,419 75	
Interest accumulations	805 96	
		2,225 71
		$23,201 24
This fund is held in trust by the Committee on Finance and is invested as follows :		
City of Cambridge Bonds	$16,000 00	
Cambridge Savings Banks	7,201 24	
		$23,201 24

Abatements, Taxes.

No appropriation is made for Abatements, as the Assessors allow in the Overlay an amount sufficient to cover the same.

The Overlay for 1891 was	$27,812 10
The amount of tax abatements	19,719 39
Balance available for city purposes	$8,092 71

The abatements paid by the City Treasurer were as follows :

	Real.	Personal.	Polls	Total.
Tax of 1887		$4 80	$16 00	$20 80
" 1888		3 00	34 00	37 00
" 1889		143 20	158 00	301 20
" 1890	$891 06	4,162 88	240 00	5,293 94
" 1891	4,054 46	9,840 49	171 50	14,066 45
	$4,945 52	$14,154 37	$619 50	$19,719 39

Taxes.

The amount of taxes assessed by the Board of Assessors on the real and personal estates and polls of Cambridge, for the year 1891, was as follows:—

Valuation of real estate	$54,141,100
Valuation of personal estate	16,487,070
	$70,628,170
Assessed at $15.50 per $1,000 gives	$1,094,736 63½
20,638 polls at $2.00	41,276 00
373 polls of women at 50 cents each	186 50
Bank stock (non-resident separately assessed)	6,761 56½
	$1,142,960 70

This tax is divided as follows:—

For City purposes*	$1,011,215 15
County assessments	49,851 13
Overlay	27,812 10½
State assessments	46,440 00
State charge for non-resident bank stock	6,761 56½
Additional assessments	880 75
	$1,142,960 70

Increase in number of polls since last year:—

1509¼ polls at $2.00	$3,018 50
Increase in real estate valuation	1,906,100 00
Increase in personal valuation	1,147,145 00
Gain in valuation since last year	$3,056,263 50

Number of houses in 1891	10,932
Number of houses in 1890	10,615
Number of houses built during the past year	317

Number of horses assessed	4,905
Number of cows assessed	551
Number of swine assessed	50

*To meet the city expenses, the income from various departments is added to this sum raised by taxation.

Statement of the valuations of the personal property and real estate of the City of Cambridge, with the number of polls, dwellings, and rate of taxation for the past ten years:—

Year.	Polls.	Personal.	Real Estate.	Total.	Dwellings.	Rate per $1,000
1882	13,922	$11,577,080	$39,091,200	$50,668,280	$8,489	$16 60
1883	14,870	11,975,640	39,821,700	51,797,340	8,572	16 40
1884	15,399¼	12,259,491	41,289,200	53,548,691	8,781	16 80
1885	16,036	12,758,255	42,588,300	55,346,555	9,106	15 50
1886	16,534½	14,490,470	44,955,200	59,445,670	9,398	15 00
1887	17,139¼	13,358,910	46,344,700	59,703,610	9,761	16 00
1888	18,086¾	14,296,740	48,420,600	62,717,340	9,927	15 00
1889	18,307½	14,960,100	50,324,175	65,284,275	10,222	16 00
1890	19,221¾	15,339,925	52,235,000	67,574,925	10,615	15 60
1891	20,731¼	16,487,070	54,141,100	70,628,170	10,932	15 50

Abatements and discounts upon taxes for the past ten years, and amount of tax uncollected December 1, 1891 :—

Year.	Total tax.	Total Abatement.	Total Discounts.	Amount of tax uncollected Dec. 1, 1891.
1882	$873,793 41	$12,230 20	$30,783 78	
1883	885,938 96	14,784 62	31,188 00	
1884	937,938 64	11,210 31	32,926 83	
1885	895,012 06	14,174 11	32,781 78	
1886	930,228 50	17,497 00	32,532 57	
1887	995,964 90	15,443 74	26,054 53	$9,977 30
1888	982,829 50	21,667 20	25,366 53	10,407 50
1889	1,087,502 60	20,722 71	28,081 09	13,487 20
1890	1,099,201 64	20,839 42	28,012 44	12,675 42
1891	1,142,960 70	19,719 39		114,709 40
				$161,256 82

The following is a table showing the net valuation for three years, upon which is based the borrowing capacity and tax levy for 1892 :—

Year.	Total Valuation.	Abatements.	Net Valuation.
1889	$65,284,275	$1,304,144	$63,980,131
1890	67,658,584	1,638,280	66,020,304
1891	70,628,170	896,448	69,731,722
	$203,571,029	$3,838,872	$199,732,157

Borrowing capacity	3)	$199,732,157
Average net valuation for 1889, 1890 and 1891 . . .		$66,577,386
		$2\frac{1}{2}$
		$133,154,772
		33,288,693
$2\frac{1}{2}$ per cent. on same		$1,664,434 65
Net funded City Debt		1,642,173 07
Leaving a margin of		$22,261 58
To which may be added the exemption allowed by the Legislature on account of the Harvard Bridge and Avenue		$400,000 00
Borrowing capacity for 1892		$422,261 58

Tax Levy.

Average net valuation for 1889, 1890 and 1891	$66,577,386
	12
	133,154,772
	66,577,386
Assessed at $12 per $1000 gives	$798,928,632

Which is the legal limit of taxation for municipal purposes for 1892, outside of the Sinking Fund requirements, Interest on the Debt and State and County Tax.

Balance Sheet of the City of Cambridge, December 1, 1891, showing the Assets and Liabilities.

	Dr.	Cr.
Betterments (due the city)	$27,884 27	
Cemetery Fund (Trust Fund)	23,201 24	
City Debt (Contingent)		$200,000 00
City Lands (Salable)	12,069 59	
City of Cambridge (City Property)	2,404,156 01	
City Treasury (Cash)	105,936 47	
Daniel White Charity Fund (Trust Fund)		5,000 00
Dowse Institute Fund (Trust Fund)		10,000 00
Funded City Debt		2,294,000 00
Funded Water Debt		1,776,500 00
Notes Receivable	175 00	
Sanders Temperance Fund (Trust Fund)		10,000 00
Sinking Fund	651,826 93	
Sinking Fund of Water Works	814,319 45	
Surrendered Estates (Tax title lands, etc.)	76,239 99	
Taxes due the City	161,256 82	
Tax Liens	18,999 77	
Tax, "Sale Surplus"		565 54
	$4,296,065 54	$4,296,065 54

Expenditures.

Statement of the expenditures for the fiscal year 1890-91, showing the increase or decrease from the amount appropriated by the City Council February 24, 1891: —

Titles of Accounts.	Estimated Expenses.	Actual Expenses.	Inerease.	Deerease.
Assessor's Department	$8,500 00	$9,585 82	$1,085 82	
Auditors Department	3,200 00	3,118 43		81 57
Bridge (Harvard),	15,311 35	8,205 01		7,106 34
Bridges(W.Boston,Craigie's and Prison Pt.	9,100 00	12,758 97	3,658 97	
Cambridge Cemetery	19,000 00	18,131 22		868 78
Cambridge Public Library	13,500 00	13,426 22		73 78
City Clerk's Department	5,600 00	5,656 66	56 66	
City Messenger's Department	2,650 00	2,533 83		116 17
City Treasurer's Department	11,000 00	11,629 03	629 03	
Civil Service Department	250 00	224 80		25 20
Clerk of Committees' Department	3,500 00	3,428 36		71 64
Eleetion Expenses, Registration of Voters	7,000 00	7,385 56	385 56	
Engineering Department	9,500 00	9,448 59		51 41
Exeeutive Department	2,750 00	2,583 60		166 40
Fire Department	68,000 00	66,773 83		1,226 17
Health Department	4,500 00	4,392 39		107 61
Ineidental Expenses	25,000 00	8,075 97		16,924 03
Inspection of Milk and Vinegar	1,000 00	1,041 24	41 24	
Inspection of Wires	2,500 00	7,299 85	4,799 85	
Interest	130,000 00	127,180 58		2,819 42
Law Department	3,100 00	2,830 94		269 06
Lighting Streets	55,000 00	47,989 92		7,010 08
Pauper Department: —				
Almshouse	20,500 00	21,679 31	1,179 31	
Farm and Ledge	6,500 00	7,714 13	1,214 13	
House Offal	18,500 00	18,714 62	214 62	
Outside Aid	30,000 00	33,496 53	3,496 53	
Salary Assistant City Physician	1,500 00	1,500 00		
Police Department	95,000 00	98,363 28	3,363 28	
Public Property: —				
City Buildings	22,000 00	21,676 89		323 11
Ineidental Expenses	3,450 00	2,664 63		785 37
New City Hall (Furnishidgs)	8,000 00	7,997 83		2 17
New Engine House in Ward Four	12,200 00	12,772 01	572 01	
School Houses: —				
Care and Repairs	44,000 00	40,928 61		3,071 39
New High School-House	121,000 30	64,956 64		56,043 66
New School-House Ward Four	52,000 00	53,188 63	1,188 63	
School Department: —				
Incidental Expenses	700 00	699 88		12
Salaries	196,000 00	200,848 45	4,848 45	
Text-Books and Supplies	14,000 00	12,386 15		1,613 85
Sealer of Weights and Measures	1,900 00	1,560 44		339 56
Sewer Department: —				
Construetion	25,000 00	18,420 49		6,579 51
Maintenanee	30,000 00	34,473 19	4,473 19	
Sinking Funds	75,170 00	75,170 00		
State Aid	22,000 00	22,693 05	693 05	
Stationery and Printing	2,500 00	2,998 70	498 70	
Street Department: —				
Bridges (Rebuilding, Widening, and Maintenance)	19,000 00	23,922 64	4,922 64	
Construction and Maintenance of sundry Streets (Belmont District)		12,400 00	12,400 00	
Extensions and Widenings: —				
Front Street	2,312 43			2,312 43
Main Street	2,990 00	2,990 00		
Winsor Street	2,400 00	2,400 00		
Filling and Grading Front Street		50,859 35	50,859 35	
Maintenanee, including the Collection of Ashes	110,000 00	111,371 15	1,371 15	
Paving: —				
Cambridge Street	18,000 00	17,991 21		8 79
Edgestones and Sidewalks	30,000 00	29,994 67		5 33
Shade Trees and Public Grounds	6,000 00	5,920 74		79 26
Watering	18,000 00	20,470 81	2,470 81	
Amounts carried forward	$1,410,584 08	$1,406,924 85	$104,422 98	$108,082 21

Expenditures—*Continued.*

Titles of Accounts.	Estimated expenses.	Actual Expenses.	Increase.	Decrease.
Amounts brought forward	$1,410,584 08	$1,406,924 85	$104,422 98	$108,082 21
Water Works :—	35,000 00	38,889 54	3,889 54	
Construction	114,141 33	23,724 78		90,416 55
Construction (Fresh Pond Land Account)	25,000 00	4,040 13		20,959 87
Construction (Stony Brook Water Supply)	87,225 00	84,595 00		2,630 00
Interest	63,000 00	69,274 42	6,274 42	
Maintenance				
Rates, Fines, etc. (Abatements)	4,500 00	3,088 90		1,411 10
Rates, Fines, etc. (Refunds)	2,500 00	1,719 16		780 84
Sinking Funds	62,222 50	65,726 13	3,503 63	
Supplies	5,880 00	6,810 80	930 80	
Supplies (Abatements)	200 00	32 30		167 70
Allowance for uncollected Taxes of 1891.	100,000 00	114,709 40	14,709 40	
	$1,910,252 91	$1,819,535 41	$133,730 77	$224,448 27
Decrease		90,717 50	90,717 50	
	$1,910,252 91	$1,910,252 91	$224,448 27	$224,448 27

TRANSFERS.

The following transfers were made from the appropriations mentioned, to make up deficiencies occurring in the appropriations to which transfers were made, viz.:—

From the Appropriation for	Amounts.	To the Appropriation for	Amounts.
Fire Department	$3,574 47	Inspection of Wires	$3,000 00
		Public Property, new Engine House	574 47
Incidental Expenses	22,050 00	Assessors' Department	1,100 00
		Bridges, W. B., C. and P. P.	4,000 00
		Election Expenses	500 00
		Fire Department	2,400 00
		Inspection of Milk and Vinegar	50 00
		Inspection of Wires	1,500 00
		Pauper Department, Outside Aid	3,500 00
		School Department, Salaries	5,000 00
		State Aid	800 00
		Stationery and Printing	500 00
		Street Department, Maintenance,	1,200 00
		Street Department, Watering	1,500 00
Police Department	1,300 00	Incidental Expenses	1,000 00
		Inspection of Wires	300 00
Lighting Streets	6,000 00	Incidental Expenses	6,000 00
Public Property	2,900 00	Incidental Expenses	2,900 00
School Department, Text Books and Supplies	1,500 00	Incidental Expenses	1,500 00
School-Houses, Care and Repairs	1,200 00	School-Houses, N. and F. Morse School	1,200 00
Sewers, Construction	5,000 00	Sewers, Maintenance	5,000 00
	$43,524 47		$43,524 47

ESTIMATED RECEIPTS.

Statement of the estimated receipts for the fiscal year ending Nov. 30, 1891, submitted to the City Council in February, 1891, and the actual receipts.

Title of Accounts.	Estimated.	Actual.	Increase.	Decrease.
Bridge, Harvard		52 50	52 50	
Bridges, W. B., C., and P. P.	1,800 00	1,831 97	31 97	
Cambridge Cemetery	19,000 00	17,531 52		1,468 48
Cambridge Public Library	4,500 00	4,447 80		52 20
City Clerk's Department	2,150 00	2,231 62	81 62	
City Treasurer's Department	700 00	1,579 55	879 55	
Engineering	75 00	86 40	11 40	
Fire Department	150 00	157 40	7 40	
Incidental Expenses	5,000 00	3,742 53		1,257 47
Inspection of Milk and Vinegar	200 00	132 00		68 00
Inspection of Wires	1,500 00	758 99		741 01
Interest	3,000 00	5,544 51	2,544 51	
Law Department	1,500 00	1,500 00		
Lighting Streets	75 00	125 65	50 65	
Pauper Department :—				
Almshouse	1,000 00	2,311 60	1,311 60	
Farm and Ledge	10,000 00	11,217 60	1,217 60	
House Offal	7,500 00	7,716 77	216 77	
Outside Aid	4,000 00	3,246 26		753 74
Police Department	5,000 00	11,154 10	6,154 10	
Public Property, City Buildings, Care & Repairs	3,000 00	2,907 97		92 03
New Engine-House		26 30	26 30	
School-Houses		47 37	47 37	
School Department :—				
Salaries	1,000 00	1,427 33	427 33	
Text-Books and Stationery	250 00	322 76	72 76	
Sealer of Weights and Measures	400 00	467 79	67 79	
Sewers :—				
Construction	10,000 00	10,213 04	213 04	
Maintenance	1,800 00	1,440 17		359 83
State Aid	12,000 00	12,425 81	425 81	
Stationery and Printing	1,000 00	576 62		423 38
Street Department :—				
Maintenance	2,500 00	2,673 65	173 65	
Paving	13,000 00	9,536 89		3,463 11
Shade Trees, etc.	100 00	126 13	26 13	
Watering	13,000 00	13,977 80	977 80	
Water Works :—				
Construction		616 00	616 00	
Con., Fresh Pond Land Acct.	14,141 33	1,178 00		12,963 33
Interest		228 89	228 89	
Maintenance		2,072 70	2,072 70	
Rates, Fines, etc.	219,447 50	234,175 37	14,727 87	
Supplies	6,080 00	7,169 75	1,089 75	
Corporation Tax from Commonwealth for 1891	50,000 00	59,000 30	9,000 30	
National Bank Tax from Commonwealth for 1891	11,000 00	10,788 02		211 98
Uncollected Taxes for 1890 and previous years	81,000 00	92,798 30	11,798 30	
	$506,868 83	$539,565 73	$54,551 46	$21,854 56
Increase	32,696 90			32,696 90
	$539,565 73	$539,565 73	$54,551 46	$54,551 46

The unestimated receipts were as follows :—

Betterments (extension and widening of Front Street) . .	$26 43
Bridge, Harvard (rebate on bill)	52 50
City Lands (sale of city land)	293 00
Public Property, rebate on bill	73 67
Water Works, Premium on bonds issued	1,794 00
Accrued interest	228 89
Rent and sales	2,072 70
	$4,541 19

APPROPRIATIONS AND EXPENDITURES.

The Amount of the Several Appropriations Made by the City Council During the Year — The Transfers from One Appropriation to Another — The Expenditures in Detail Under Each Appropriation, and the Unexpended Balances Nov. 30, 1891.

Assessors' Department.

Appropriation	$8,500 00
Transferred from Incidental Expenses	1,100 00
	$9,600 00

EXPENDED.

For Salaries of Assessors:—			
Joshua G. Gooch	$1,500 00		
Andrew J. Green	1,500 00		
Joseph Whittemore	1,500 00		
Assistant Assessors:—			
John M. Davis	324 00		
Daniel J. Hayes	276 00		
Warren Ivers	282 00		
John Lennon	340 00		
D. B. Shaughnessy.	100 00		
Clerks:—			
Lizzie E. Estes	600 00		
Ida G. Wellington. . . .	600 00		
Sundry persons (temporary clerks)	1,041 75		
		$8,063 75	
Abstracts:—			
Byron Boyd	18 50		
Charles G. Pope	295 26		
		313 76	
Advertising, James Cox . .		19 35	
Car tickets, West End Street Railway Co.		25 00	
Carriage hire, M. J. Fairbanks		15 00	
Directories:—			
W. A. Greenough & Co. .	2 50		
Sampson Murdock & Co. .	5 00		
		7 50	
Subscription, *Banker and Tradesman*		5 00	
Stationery and printing:—			
Cotton & Gould	$58 04		
James H. Cox	9 00		
J. Frank Facey	5 00		
John Ford & Son	37 50		
Harvard Printing Co. . .	814 00		
E. W. S. Jones	106 25		
Amounts carried forward . .	$1,029 79	$8,449 36	$9,600 00

Amounts brought forward . .	$1,029 79	$8,449 36	$9,600 00
Stationery Department . .	96 67		
Winkley Dresser & Co. . .	10 00		
		1,136 46	
Total			$9,585 82
Balance unexpended . .			14 18

Auditor's Department.

Appropriation			$3,200 00

EXPENDED.

For Salaries of			
City Auditor, Harry T. Upham	$2,100 00		
Clerks:— Esther L. Cogan . .	624 00		
Carrie A. Estes . .	25 00		
		$2,749 00	
Stationery, printing, postage and sundry supplies :—			
Cotton & Gould	$153 13		
James H. Cox	53 75		
John Ford & Son	9 37		
W. A. Greenough & Co. .	2 50		
Harvard Printing Co. . . .	28 45		
L. W. Poole	8 65		
Sampson, Murdock & Co. .	5 00		
Stationery Department . .	27 58		
John Wilson & Son . . .	77 00		
Winkley, Dresser & Co. .	4 00		
		$369 43	
Total			$3,118 43
Balance unexpended . .			81 57

Bridge, Harvard.

Appropriation			$15,311 35
Surplus revenue			52 50
			$15,363 85
Amount carried forward . . .			$15,363 85

Amount brought forward . .				$15,363 85

RECEIVED.

From Commissioners as the unexpended balance of the amount allowed for travelling expenses to Bridgeport, Conn.			$52 50	
(The expenses of the Harvard Bridge are divided equally between the cities of Boston and Cambridge, and these amounts represent those paid by Cambridge.)				

EXPENDED.

For Salaries of				
Commissioner, Leander Greely		$500 00		
Secretary, Warren F. Spalding		50 00		
Engineer, Wm. Jackson . . .		500 00		
Asst. Engineer, John E. Cheney		300 00		
Draw-tenders: —				
Wm. H. Churchill	$450 00			
Thomas Ellsworth	349 92			
John A. Solari . .	300 00			
		$1,099 92		
Watchmen: —				
James A. Gorman	216 00			
John E. Moran . .	208 50			
		424 50		
			$2,874 42	
Expenses of Commissioners to Bridgeport, Conn.			100 00	
Clerical services, Nathaniel H. Taylor			50 00	
Contracts: —				
The Barber Asphalt Paving Co.		1,617 18		
Simpson Bros., paving sidewalk		1,653 00		
W. H. Keyes & Co., wooden flooring		366 96		
Thomas Keyes, repairing woodden flooring		303 76		
Boston Electric Light Co., wiring and installing		471 05		
Cambridge Electric Light Co., wiring and installing . . .		376 62		
			$4,788 57	
Amounts carried forward . . .			$7,812 99	$15,363 85

Amounts brought forward . .		$7,812 99	$15,363 85
For Lighting: —			
Boston Electric Light Co. . .	79 73		
Cambridge Electric Light Co. .	92 50		
Boston Gas Light Co.	14 65		
		$186 88	
For Floral design, Galvin Bros.		3 20	
Fuel, Geo. M. Winslow & Co. .		12 75	
Repairs: —			
Carpentry, Joseph Ruth . .	$4 80		
Iron work, D. H. Andrews .	10 00		
Miller & Shaw	13 63		
P. J. Dinn	105 96		
Plumbing, Wm. Lumb & Co	19 17		
		$153 56	
Supplies: —			
Hardware, Dana Hardware Co.	$1 55		
J. Baker & Co.	3 68		
Lanterns, Globe Gas Light Co.	12 50		
Oil, Leonard & Ellis . . .	4 93		
Stationery, W. F. Spalding .	5 00		
Samuel Hobbs & Co. . .	4 25		
Sundries, W. H. Churchill .	3 72		
		$35 63	
Total			$8,205 01
Balance unexpended . . .			$7,158 84

Bridges, West Boston, Craigie's and Prison Point.

Appropriation	$9,100 00
Additional appropriation . .	5,000 00
Surplus revenue	31 97
	$14,131 97
Transferred to incidental expenses	1,000 00
	$13,131 97

RECEIVED.

For Rent, wharfage, etc. . . .	$1,831 97	
(The expenses of these bridges are divided equally between the cities of Boston and Cambridge, and these amounts represent those paid by Cambridge.)		
Amount carried forward . . .		$13,131 97

Amount brought forward . . .				$13,131 97

EXPENDED.

For Salaries of				
Commissioner, Wm. J. Marvin		$500 00		
Clerk, Charles S. Parsons . .		200 00		
Engineer, Henry Manley . .		20 00		
Draw-tenders:—				
M. F. Corkery .	$500 00			
A. W. Smith . .	480 00			
N. E. Story . .	200 00			
		1,180 00		
Engineers:—				
Walter B. Hoitt .	400 00			
John Brogan . .	310 00			
James Foley . .	300 00			
		1,010 00		
			$2,910 00	
Car fares, messenger fees, Charles S. Parsons			26 73	
Contract for repairing fence and sidewalk on West Boston Bridge, Josiah Shaw . . .			5,260 25	
Advertising, sundry newspapers			22 56	
Printing, postage and stationery			37 79	
Electric Lighting:—				
Cambridge Electric Light Co.			900 00	
Fuel, Geo. M. Winslow & Co.			186 50	
Hardware, tools and supplies .			255 41	
Lumber:—				
John W. Leatherbee . . .		$155 74		
Alpheus M. Stetson & Co. .		139 18		
Pope & Paul		98 29		
Geo. McQuesten & Co. . .		69 31		
Curtis & Pope		25 50		
E. D. Sawyer & Co. . . .		24 29		
Sundry persons		23 11		
			$535 42	
Paving, A. A. Libby & Co. .			1,139 50	
For Professional services, Freeman Hunt Esq.			50 00	
Repairs:—				
Carpentry, Josiah Shaw . .		$537 53		
Cess-pools, Wm. Hillier . .		41 90		
Iron work, Miller & Shaw .		292 53		
Paper hanging, T. F. Swan .		38 00		
			$909 96	
Amounts carried forward . . .			$12,234 12	$13,131 97

Amounts brought forward . . .		$12,234 12	$13,131 97
For Teaming, Charles Linehan .		95 60	
Water rates, City of Boston .		29 25	
Watering Bridge roadway, Proctor Bros. & Billings . .		400 00	
Total			$12,758 97
Balance unexpended . .			$373 00

Cambridge Cemetery.

Appropriation			$19,000 00
RECEIVED			
For Burial fees		$4,361 40	
Care of lots		4,674 67	
Foundations, brick graves, etc.,		1,395 39	
Interest on Cemetery Fund. .		924 33	
Rent		183 34	
Sale of Lots		5,920 39	
Grass		64 00	
Old fence		8 00	
Total receipts		$17,531 52	
EXPENDED.			
For Salaries of			
Supt., Chas. S. Childs	$1,300 00		
Asst. Supt., Henry C. Hobbs .	819 25		
Book-keeper, J. Watson Taylor	912 50		
Clerk, Edw. J. Brandon . .	50 00		
Laborers, as per pay rolls . .	10,116 35		
		$13,198 10	
Bricks, M. W. Sands.		39 00	
Binding books, J.H.H.McNamee		12 00	
Car tickets, W.E. St. Railway Co.		20 00	
Carriage hire:—			
J. E. Fabyan.	$14 50		
J. Callahan	5 00		
		19 50	
Carriage repairs, G. O. Rollins		8 25	
Clock repairs, Jas. W. Marshea		10 00	
Grave covers, boxes, headstones, posts, etc.:—			
Cousens & Pratt	27 00		
Jos. W. Grigg	25 52		
H. H. Mathews	96 00		
Wight & Scorgie	188 50		
John J. Horgan	124 00		
		461 02	
Amounts carried forward . .		$13,767 87	$19,000 00

Amounts brought forward . .		$13,767 87	$19,000 00
For Expressage, Hatch & Co. .		17 45	
Filling, Jeremiah Sullivan . .		450 45	
Floral token, Chas. S. Childs .		15 00	
Fuel, H. G. Jordan & Co. . .		45 12	
Hardware, tools and supplies:—			
Burditt & Bynner	$169 93		
Moore & Rocker	39 92		
G. O. Rollins	5 80		
D. J. Wild & Co.	36 70		
Wight & Scorgie	8 93		
F. A. White	12 00		
Sundry persons	12 58		
		285 86	
Harness, J. F. Nolan . . .		7 25	
Horse food:—			
Joseph Hall	165 71		
Eng. Veg. Food Co. . . .	10 00		
		175 71	
Horse shoeing, Wm. Balmer .		40 11	
Iron fence, Ward One Burial Ground, P. J. Dinn . . .		2,115 00	
Lumber, lime and cement, N. N. Stickney		246 84	
Manure, Joseph Finnick . . .		107 10	
Plants, shrubs, seeds, etc.:—			
P. J. Monahan	89 50		
W. H. Murdock	14 00		
C. O. Saunders	11 00		
Wm. Hill	45 00		
Jos. Breck & Sons	10 90		
		170 40	
Repairs on buildings:—			
Painting, G. O. Danforth . .	55 00		
Plumbing, Chas. H. Millner .	14 75		
Roof, John J. Blevins . . .	34 79		
Carpentry:—			
M. C. Beedle	126 03		
R. & G. Wentworth	18 33		
Furniture	10 30		
		259 20	
Signs, James White		15 00	
Sign posts, F. L. Chapman .		3 75	
Stationery, printing and postage :			
John Ford & Son	32 75		
Amee Bros., ...	18 75		
Charles S. Childs	40 90		
Amounts carried forward . . .	$92 40	$17,722 11	$19,000 00

Amounts brought forward . . .	$92 40	$17,722 11	$19,000 00
Cotton & Gould	7 70		
Harvard Printing Co. . . .	6 70		
James H. Cox	5 75		
Winkley, Dresser & Co. . .	2 00		
		114 55	
Street watering		103 00	
Sundry supplies		24 83	
Teaming, John Doody . . .	132 50		
E. J. Coolidge	6 67		
		139 17	
Telephone, rent and tolls . .		21 56	
Uniform		6 00	
Total expenditure			$18,131 22
Balance unexpended . .			$868 78

Cambridge Public Library.

Appropriation			$13,500 00
RECEIVED.			
For Catalogues and fines . . .		$235 58	
Dog licenses for 1890		4,212 22	
		$4,447 80	
EXPENDED.			
For salaries of			
Librarian, Miss A. L. Hayward	$999 96		
Assistants	3,006 62		
Clerical assistance	274 45		
Janitors, A. J. Ayers	1,040 00		
James McVay	30 00		
		5,351 03	
Binding books :—			
E. W. Bettinson	951 25		
H. O. Houghton & Co. . .	36 15		
		987 40	
Books, periodicals, etc.: —			
Estes & Lauriat	889 07		
Little, Brown & Co. . . .	672 53		
W. B. Clarke & Co.	460 37		
F. L. Beunke	186 90		
Carl Schoenhof	112 98		
Amee Bros.	65 30		
David G. Francis	66 73		
Amounts carried forward . . .	$2,453 88	$6,338 43	$13,500 00

Amounts brought forward . . .	$2,453 88	$6,338 43	$13,500 00
H. S. Inman	49 00		
Charles W. Sever	41 65		
G. P. Putnam's Sons . . .	30 00		
Fords, Howard & Hulbert .	27 50		
Elizabeth H. Morton . . .	25 60		
Francis W. Story	23 75		
George E. Littlefield . . .	20 00		
H. B. Walker	20 00		
Sundry persons	108 79		
	———	2,800 17	
Delivery of books:—			
W. B. Cade	$404 05		
W. J. Gallagher	70 00		
Edw. Thorndike	60 00		
E. C. Gove	46 67		
M. I. Dow	32 50		
J. W. Hunnewell	35 00		
H. N. Grant	25 00		
	———	673 22	
Directories, W. A. Greenough & Co.		5 00	
Expressage, Sawin's Express .	36 61		
Elliott & Durey .	3 35		
	———	39 96	
Furniture and furnishings :—			
Library Bureau	132 85		
Paine's Furniture Co. . . .	10 00		
C. W. H. Moulton & Co. . .	22 75		
S. W. Fuller	5 55		
F. A. White	11 75		
W. W. Pratt	32 25		
Greene & Co	19 13		
	———	234 28	
Fuel, McCormick Bros. . . .	105 00		
H. Wellington & Co. . .	86 00		
Geo. M. Smith	239 16		
	———	430 16	
Hardware, tools and supplies :—			
Burditt & Bynner	33 69		
Brock Bros.	45 00		
Greene & Co.	77 35		
H. C. Dimond & Co. . . .	2 58		
	———	158 62	
Ice, Fresh Pond Ice Co. . . .		8 00	
Amounts carried forward . . .		$10,687 84	$13,500 00

Amounts brought forward . . .		$10,687 84	$13,500 00
For Lighting:—			
Cambridge Electric Light Co.	758 95		
Cambridge Gas Light Co. .	19 52		
		778 47	
For Repairs:—			
Carpentry, W. Fillmore . . .	155 29		
O. H. Springer . .	19 17		
A. Belluche . . .	5 30		
Roof, H. F. Peak	32 42		
Sundry	16 91		
		229 09	
Stationery, printing and postage:—			
John Wilson & Son . . .	402 84		
Harvard Printing Co. . . .	871 77		
John Ford & Son	205 98		
Thorp & Adams Mfg. Co. .	10 25		
Carter, Rice & Co.	10 85		
Heliotype Printing Co. . .	35 00		
Amee Bros.	1 75		
		1,538 44	
Sundry supplies:—			
A. L. Hayward	71 25		
Charles Walker	14 45		
Sundry persons	5 13		
		90 83	
Typewriter, Hammond Typewriter Co.		101 55	
Total expenditures			$13,426 22
Balance unexpended . .			73 78

City Clerk's Department.

Appropriation			$5,600 00
Surplus revenue			81 62
			$5,681 62
RECEIVED.			
For Fees from City Clerk . . .		$2,231 62	
EXPENDED.			
For Salaries of:—			
City Clerk, Walter W. Pike . .	$2,983 33		
Assistant City Clerk, Edw. J. Brandon	1,183 33		
		4,166 66	
Amounts carried forward . . .		$4,166 66	$5,681 62

Amounts brought forward . . .		$4,166 66	$5,681 62
Clerical assistance		543 40	
Advertising		24 63	
Binding books, J. H. H. McNamee		8 75	
Boxes, Chas. E. Pierce & Co. .	37 50		
Chas. Place	15 50		
		53 00	
Census of births :—			
John F. Baker	69 00		
John M. Davis	61 50		
M. F. Ellis	37 50		
E. B. Getchell	49 50		
H. A. Haynes	69 00		
		286 50	
Directories		7 50	
License badges, A. W. Mitchell Mfg. Co.		32 40	
Newspapers, F. L. Beunke . .		6 75	
Numbering stamp, Cotton & Gould		30 50	
Returns of births and deaths .		175 75	
Serving warrants, posting notices, etc. :—			
John M. Davis	31 41		
F. E. Shaw	29 25		
F. H. Lull	8 75		
John A. M. McLane . . .	5 00		
		74 41	
Stationery and printing :—			
E. W. S. Jones	57 25		
Harvard Printing Co. . . .	40 99		
J. Frank Facey	35 00		
Stationery Dept.	41 77		
Winkley, Dresser & Co. . .	32 00		
John Ford & Son	20 25		
James H. Cox	12 25		
Cotton & Gould	6 00		
		246 41	
Total expenditures			$5,656 66
Balance unexpended . .			$24 96

City Messenger's Department.

Appropriation			$2,650 00
EXPENDED.			
For Salaries of :—			
City Messenger F. L. Pratt .	$1,800 00		
Asst. City Messenger, W. A. Walker	403 00		
		$2,203 00	
Carriage hire, M. J. Fairbanks		3 00	
Car tickets, W. E. St. Railway Co.		60 00	
City Seal, J. & J. Berry & Co.		15 50	
Directories :—			
W. A. Greenough & Co. . .	2 50		
Sampson, Murdock & Co. .	5 00		
		7 50	
Expressage :—			
Hatch & Co.	67 65		
Savage & Son	7 95		
		75 60	
Railroad Guide, J. A. & R. A. Reid		1 50	
Rent of post-office box . . .		4 00	
Scale, Fairbanks, Brown & Co.		5 25	
Stationery and Printing :—			
John Ford & Son	6 50		
Stationery Department . .	150 50		
		157 00	
Sundries		1 48	
Total expenditures			$2,533 83
Balance unexpended . . .			$116 17

City Treasurer's Department.

Appropriation			$11,000 00
Surplus revenue			879 55
			$11,879 55
RECEIVED			
For Collector's fees		$1,579 55	
EXPENDED.			
For Salaries of City Treasurer, Wm. W. Dallinger	$3,000 00		
Amounts carried forward . . .	$3,000 00		$11,879 55

Amount brought forward . . .	$3,000 00		$11,879 55
For Clerks: —			
E. G. Stevens	1,196 00		
E. J. Howlett	1,040 00		
C. H. Dodge	936 00		
J. Henry Webber	780 00		
Temporary clerks	809 48		
		$7,761 48	
Advertising: —			
James Cox	85 30		
Boston Daily Advertiser . .	41 53		
		$126 83	
Banker's Almanac, Damrell & Upham		4 00	
Boxes		11 50	
Carriage hire, M. J. Fairbanks		327 50	
Car tickets, W. E. Street Railway Co.		10 00	
Check punch, J. R. Foster . .		30 00	
Commissions for collecting poll taxes: —			
Warren Ivers	$297 00		
Frank H. Lull	584 50		
Joseph Fox	618 50		
		1,500 00	
Counterfeit detector, Wm. Dickerman		3 00	
Directories		7 50	
German numbering machines, W. J. McGraw & Co . . .		70 00	
Making tax sale descriptions, Engineering Department . .		86 40	
Recording deeds, C. B. Stevens		21 03	
Stamps and repairs		8 90	
Stationery, printing and postage: —			
American Bank Note Co. .	$200 00		
James H. Cox	195 75		
Winkley, Dresser & Co. . .	842 75		
Stationery Department . .	60 41		
Cotton & Gould	51 33		
John Ford & Son	21 00		
Harvard Printing Co. . . .	4 90		
J. Frank Facey	10 00		
U. S. Government	272 00		
Total expenditures . . .		1,658 14	
Sundries		2 75	
			$11,629 03
			250 52

Civil Service Department.

Appropriation			$250 00
EXPENDED.			
For Salaries of Registration Clerks:—			
Chas. S. Lincoln	66 67		
Henry L. Lincoln	133 33		
		$200 00	
Stationery:—			
Cotton & Gould	21 80		
Winkley, Dresser & Co. . . .	3 00		
		24 80	
Total expenditures			224 80
Balance unexpended . .			25 20

Clerk of Committees Department.

Appropriation			$3,500 00
EXPENDED.			
For Salaries of:—			
Clerk of Committees, John McDuffie	$2,400 00		
Assistant, Eben W. Pike . . .	894 00		
		3,294 00	
Directories		7 50	
Stationery, printing, postage, etc.:—			
Cotton & Gould	9 29		
Harvard Printing Co.	11 75		
Stationery Dept.	60 12		
Winkley, Dresser & Co. . . .	44 25		
L. W. Poole	1 45		
		126 86	
Total expenditures			3,428 36
Balance unexpended . .			71 64

Election Expenses and Registration of Voters.

Appropriation	$7,000 00
Transferred from Incidental Expenses	500 00
	7,500 00
Amount carried forward . . .	$7,500 00

Amount brought forward . .			$7,500 00

EXPENDED.

For Election expenses:—			
Advertising list of candidates .		40 00	
Binding ballots,			
J. H. H. McNamee		33 60	
Carriage hire:—			
C. W. Dailey	13 00		
J. E. Fabyan	5 00		
M. J. Fairbanks	22 00		
J. O. Whitten	12 00		
		52 00	
Clerical assistance to City Clerk		43 16	
Labor preparing voting rooms:—			
W. H. Norris	148 53		
Wm. H. White	55 50		
Thos. F. McCue	39 80		
T. F. Myles	21 00		
Sundry persons	131 57		
		396 40	
Posting lists, serving warrants and notices:—			
John M. Davis	35 10		
A. F. Chadwick	7 50		
Warren Ivers	3 50		
F. E. Shaw	1 50		
		47 60	
Precinct officers		2,367 00	
Police officers		170 00	
Refreshments		95 00	
Ringing bells		19 00	
Rent of rooms for caucuses and voting purposes:—			
St. John's Literary Institute	80 00		
Citizens' Trade Association .	60 00		
Chas. Beck Post 56, G. A. R.	50 00		
Cambridge Lyceum . . .	23 00		
Democratic City Committee .	10 00		
Geo. Fisher	7 50		
		230 50	
Repairs of ballot boxes . . .		16 10	
For Stationery and printing:—			
James H. Cox	43 25		
Cotton & Gould	51 42		
Amounts carried forward . . .	$94 67	$3,510 36	$7,500 00

Amounts brought forward . . .	$94 67	$3,510 36	$7,500 00
J. Frank Facey	84 00		
John Ford & Son	411 00		
Harvard Printing Co.	17 50		
Winkley, Dresser & Co. . . .	17 00		
		624 17	
Sundries		7 72	
Use of barges, W. E. St. Railroad Co. for carting ballot-boxes		60 00	
		4,202 25	
For Registration of voters:—			
Salaries of Registrars and Clerk:—			
Horace K. Osborn	$600 00		
John W. Coveney	500 00		
Isaac Bradford	500 00		
James Cox	500 00		
		2,100 00	
Clerical Assistance to Registrars			
Maria L. Heywood , . . .	62 85		
Anne Jacobs	74 20		
		137 05	
Advertising		30 50	
Binding and mounting lists, E. W. Bettinson		107 95	
Posting lists, J. A. McLane .		55 00	
Serving notices, F. A. Lull .		4 00	
Stationery and printing:—			
John Wilson & Son . . .	718 11		
James H. Cox	14 67		
Cotton & Gould	6 53		
E. W. S. Jones	7 00		
E. F. Hunt	2 50		
		748 81	
		$3,183 31	
Total expenditures			7,385 56
Balance unexpended . .			$114 44

Engineering Department.

Appropriation	$9,500 00
Surplus revenue	11 40
	9,511 40
Amount carried forward . . .	$9,511 40

Amount brought forward . . .			$9,511 40

RECEIVED.

For making tax-sale subscriptions for Collector of Taxes . . .		$86 40	

EXPENDED.

For Salaries of			
City Engineer,			
Lewis M. Hastings . . .	$3,000 00		
Assistants	5,544 60		
Clerk, Mary E. Rowen . . .	295 00		
		$8,839 60	
Book case, Philips Bros. . . .		75 00	
Boundary Posts, Austin Ford .		10 00	
Car tickets			
West End Street Railway Co.	$150 00		
Fitchburg R. Co.	5 00		
		$155 00	
Care of rain gauge,			
Alonzo L. Fiske		12 50	
Carriage hire, M. J. Fairbanks .		15 00	
Drawing materials, instruments, tools and repairs, Stationery, Printing, etc: —			
Frost & Adams	$172 65		
Cotton & Gould	23 79		
F. A. White	19 60		
James Maitland	13 05		
Harvard Printing Co. . . .	10 55		
W. H. Norris	7 82		
Ira G. Hersey	10 01		
D. W. Hyde & Co.	7 00		
L. M. Hastings	13 77		
James H. Cox	8 50		
Stationery Department . . .	20 75		
Sundry persons	34 00		
		$341 49	
Total expenditure			$9,448 59
Balance unexpended . .			$62 81

Executive Department.

Appropriation			$2,750 00
EXPENDED.			
For Salaries of			
Mayor, Henry H. Gilmore . .	$208 33		
Mayor, Alpheus B. Alger . .	2,291 67		
		$2,500 00	
Entertainment of guests:—			
Carriage hire	16 00		
Refreshments	15 00		
		31 00	
Stationery and printing . . .		52 60	
Total.			$2,583 60
Balance unexpended . .			$166 40

Fire Department.

Appropriation			$68,000 00
Transferred from Incidental Expenses . .		$2,400 00	
Surplus revenue		7 40	
			2,407 40
			70,407 40
Transferred to Inspector of Wires Dept. . .		3,000 00	
New Engine House in Ward Four		574 47	
			3,574 47
			$66,832 93
RECEIVED.			
For sale of horse	75 00		
Manure	75 00		
Old material	7 40		
		157 40	
EXPENDED.			
For Salaries of			
Chief Thos. J. Casey	1,500 00		
Acting Chief N. W. Bunker .	21 56		
District Chief C. W. Brackett .	375 00		
N. W. Bunker .	375 00		
W. B. Cade . .	375 00		
Clerk N. W. Bunker	12 48		
Amounts carried forward . .	$2,659 04		$66,832 93

Amounts brought forward . .	$2,659 04		$66,832 93
Permanent men, engineers, firemen and drivers as per pay rolls	26,326 98		
Call men as per pay rolls . . .	14,843 42		
Substitutes :			
E. E. Alley	40 00		
Chas. Barney	70 00		
Geo. W. Butler.	317 35		
J. S. Casey	588 75		
Geo. E. Cragin.	27 50		
John H. Kelley	17 50		
J. F. McCabe	2 50		
Geo. F. Tibbetts	291 25		
		45,184 29	
For Apparatus, new:—			
Engine No. 6, Manchester Lo. Works . .	4,000 00		
Engine heater, Manchester Lo. Works . .	15 20		
Engine heater, Wm. Campbell & Co. . . .	176 18		
Hose wagon, Abbott Downing & Co. . .	475 00		
Fuel wagon, Charles Waugh & Co. . . .	295 00		
Four extinguishers, J. Hinman	120 00		
Extension ladders, C. W. H. Moulton & Co. . .	135 00		
Relief valves, Alvarado Mayer	75 00		
Wire cutters, rubber gloves, door opener and shut-off nozzles, Cornelius Callahan Co.	102 50		
		5,393 88	
Apparatus repairs:—			
Abbot, Downing Co. . . .	715 00		
Cornelius Callahan Co. . .	27 00		
Wm. Campbell & Co. . . .	14 00		
F. L. Chapman Co.	53 50		
J. Hinman	10 00		
F. H. Holton	44 64		
Manchester Lo. Works . .	160 20		
Geo. McIntosh	83 30		
John Lane	32 90		
Amounts carried forward . . .	$1,140 54	$50,578 17	$66,832 93

Amounts brought forward . . .	$1,140 54	$50,578 17	$66,832 93
C. W. H. Moulton & Co. . .	195 95		
G. O. Rollins	36 65		
Rogers & Decrow	75 00		
W. C. Smith	27 00		
Chas. Waugh & Co.	2 50		
Sundry persons	101 81		
		$1,579 45	
Hose, couplings and repairs,			
Boston Woven Hose Co. . .		2,276 31	
Badges, A. W. Mitchell Mfg. Co.	9 00		
H. M. Richards & Co. . . .	28 50		
		$37 50	
Brushes, brooms, dusters, etc.:—			
Chas. A. Austin & Co. . .	50 00		
Chas. P. Keith	22 00		
S. B. Ward	14 40		
		86 40	
Buttons, Scovill Mfg. Co. . .		40 75	
Care of hydrants:—			
E. E. Alley	10 00		
N. W. Bunker	10 00		
Geo. W. Butler	104 00		
C. H. Chapman	2 00		
J. A. Pike	20 75		
W. C. McKay	83 75		
James McLean	40 00		
		$270 50	
Carriage hire for Committee:—			
C. W. Dailey	14 00		
J. E. Fabyan	7 00		
Lake & Moynahan	14 50		
		$35 50	
Circle and edgestone, Street			
Department		16 29	
Clock, A. J. Applegate . . .		9 50	
Damage, O. Thorp		3 30	
Electrical supplies:—			
N. E. Gamewell Co.	$151 04		
Albert L. Russell	3 77		
		$154 81	
Expressage, etc.		71 80	
Fines remitted		101 50	
Fire hats, Joseph Cogan . . .		79 00	
Amounts carried forward . . .		$55,340 78	$66,832 93

Amounts brought forward . .		$55,340 78	$66,832 93
For Fuel:—			
L. G. Burnham & Co. . . .	$615 29		
Coleman Bros.	64 00		
H. G. Jordan & Co.	726 43		
H. Wellington & Co. . . .	51 40		
Weighing, H. W. Brooks . .	7 47		
		1,464 59	
Furniture, bedding, etc.:—			
J. H. Corcoran & Co. . . .	$20 00		
D. W. Hyde & Co.	27 97		
Webster, Folger & Co. . . .	227 00		
Worcester Bros.	84 20		
Sundry persons	10 45		
		369 62	
Gas, Cambridge Gas Light Co. .		949 28	
Hardware, tools and supplies:—			
Brock Bros.	$17 10		
Burditt & Bynner	209 90		
Whittier Hardware Co. . . .	9 50		
Sundry persons	12 41		
		248 92	
Harness and repairs:—			
Chas. E. Berry	$64 25		
Joseph Cogan	14 00		
John Hancock	74 75		
F. Ivers & Son	24 50		
Wm. Mitchell	297 25		
G. A. Morse	42 75		
Wm. Darling	15 37		
		532 87	
Hay, grain and straw:—			
J. S. Bradeen	$1.369 61		
W. F. Holmes	116 97		
McPherson Bros.	1,561 72		
Sundry persons	88 33		
		3,136 63	
Horses, purchase and exchange:—			
P. H. Dardis	$225 00		
J. Frank Pickett	225 00		
Wm. K. Porter	500 00		
Sturtevant Bros.	525 00		
		1,475 00	
Horse hire:—			
F. D. Bartlett	$15 50		
T. A. Callaghan	129 50		
Colby Bros.	60 00		
Amounts carried forward . . .	$205 00	$63,517 69	$66,832 93

Amounts brought forward . . .	$205 00	$63,517 69	$66,832 93
Elizabeth Cox	84 00		
M. F. Lamb	69 00		
Thomas McSorley	133 50		
Sundry persons	13 50		
		505 00	
Horse medicine		22 35	
Horse shoeing:—			
Wm. Balmer	$94 54		
Wm. Bell	75 00		
James Bolger	70 25		
P. J. Callahan	63 00		
E. E. Donahoe & Co. . . .	78 00		
Wm. F. Garrett & Co. . . .	37 50		
John F. Gurry	58 50		
D. H. Lehan	23 25		
James Moley	62 75		
John Ryan	50 00		
Thomas Smith	86 00		
		698 79	
Ice:—			
Cambridge Ice Co.	$18 70		
Fresh Pond Ice Co.	24 97		
		43 67	
Oil:—			
E. W. Bigelow & Co. . . .	$26 50		
Maverick Oil Co.	11 52		
Lustralis Mfg. Co.	24 00		
		62 02	
Packing, etc.:—			
Edw. H. Haskell	$32 15		
Gould Packing Co.	7 80		
		39 95	
Re-casting bell on Central square Baptist Church		122 86	
Refreshments:—			
M. R. Jones	138 50		
Somerville Fire Department .	10 00		
		148 50	
Sawdust, shavings, etc. . . .		9 00	
Soap, matches, etc.		36 04	
Spelter, Fuller, Dana & Fitz . .		261 67	
Stationery and printing:—			
John Ford & Son	44 75		
Harvard Printing Co. . . .	19 75		
J. H. H. McNamee	53 56		
Sundry persons	27 81		
		145 87	
Amounts carried forward . . .		$65,613 41	$66,832 93

Amounts brought forward . . .		$65,613 41	$66,832 93
Tower striker, Geo. M. Stevens		480 00	
Vitriol, etc., Poor, Towne & Co.		374 62	
Washing bedding		305 80	
Total expenditures			$66,773 83
Balance unexpended . . .			$59 10

Health Department.

Appropriation			$4,500 00

EXPENDED.

For Salaries of			
Medical Inspector,			
Dr. Edwin Farnham . . .	$1,500 00		
Sanitary Inspectors:—			
Charles S. Lincoln	989 33		
Edward F. Chase	455 00		
Wm. A. Ford	360 00		
Warren Ivers	86 00		
Clerk, John McDuffie . . .	287 50		
		$3,677 83	
Badge, A. W. Mitchell Mfg. Co.		2 50	
Burying dead animals		53 75	
Caligraph, type-writer and cabinet, W. M. Belcher & Co. . .		110 00	
Car tickets,			
W. E. St. Railway Co. . . .		125 00	
Cow pox points,			
Dr. H. A. Martin and Son .		42 00	
Disinfectants		14 31	
Filling boxes,			
J. L. Fairbanks & Co. . . .		19 00	
Oak outfit, library bureau . .		38 75	
Professional services,			
Geo. P. Piper, Esq.		10 00	
Serving notices		20 80	
Stationery, printing, postage, etc. :—			
Cotton & Gould	8 85		
James H. Cox	61 00		
Wm. H. Wheeler	31 50		
Winkley, Dresser & Co. . .	65 35		
Amounts carried forward . . .	$166 70	$4,113 94	$4,500 00

Amounts brought forward . . .	$166 70	$4,113 94	$4,500 00
Harvard Printing Co. . . .	9 80		
Sundry persons	15 85		
		192 35	
Travelling expenses of Dr. Farnham		86 10	
			$4,392 39
Total expenditures			
Balance unexpended . . .			107 61

Incidental Expenses.

Appropriation		$25,000 00
Transferred from : —		
Lighting streets	$6,000 00	
Police Department	1,000 00	
Public property, city buildings C. & R.	300 00	
Incidentals	700 00	
School house, C. & R. . . .	1,900 00	
School Department, text-books and supplies	1,500 00	
		11,400 00
		36,400 00
Transferred to : —		
Assessors' Department . . .	$1,100 00	
Bridges, W. B. C. & P. P. . .	4,000 00	
Election expenses	500 00	
Fire Department	2,400 00	
Inspection of milk and vinegar	50 00	
Inspection of wires	1,500 00	
Pauper Department, outside aid	3,500 00	
School Department, salaries .	5,000 00	
State aid	800 00	
Stationery and printing . . .	500 00	
Street Dept., maintenance . .	1,200 00	
Street Dept., watering	1,500 00	
		22,050 00
		$14,350 00

RECEIVED.

For Licenses : —			
Grease	$38 00		
Hawkers and pedlers . . .	300 00		
Liquor	1 00		
		339 00	
Amounts carried forward . .		$339 00	$14,350 00

Amounts brought forward . .		$339 00	$14,350 00
Mortgage note of Mary L. Hitchcock . . .		25 00	
Old taxes		43 82	
Premium on bonds issued . .		3,137 75	
Weighing fees : —			
Thomas Gurnham	71 71		
Timothy Sullivan	125 25		
		196 96	
Total receipts		$3,742 53	

EXPENDED.

For Ambulance expenses, fees,			
C. W. Dailey	163 50		
Repairs, F. L Chapman . . .	30 00		
		193 50	
City Council expenses:—			
Salaries of Clerk of Common Council, Edw. J. Brandon .	300 00		
Page, Wm. A. Walker . .	75 00		
		375 00	
Atlas of Mass.,			
Geo. H. Walker & Co. . .		15 00	
Carriage hire: —			
F. D Bartlett	$3 00		
Irving Blake	8 00		
Chas. W. Dailey	26 00		
J. E. Fabyan	43 50		
M. J. Fairbanks	15 00		
Gwynne & Co., ...	4 00		
Lake & Moynahan	9 00		
G. D. Merrill & Co. . . .	4 00		
J. O. Whitten	54 50		
		167 00	
Car tickets,			
W. E. St. Railway Co. .		300 00	
Newspapers		8 00	
Refreshments		55 05	
Stationery and printing,			
Harvard Printing Co. . . .		38 00	
Board of Peter Harhay at Cambridge Hospital . . .		39 00	
Damages awarded : —			
Robert Brown	12 00		
Michael Christie	5 00		
Amounts carried forward . . .	$17 00	$1,190 55	$14,350 00

Amounts brought forward . .	$17 00	$1,190 55	$14,350 00
Mary Clasby	125 00		
Mary Dedrick	75 00		
M. E. Hogan	35 00		
Mary G. Waite	50 00		
		302 00	
Decorations,			
Boston Decorating Co. . .		20 00	
Drinking fountain,			
Edw. Kendall & Sons . . .		85 00	
Ensign,			
Irving W. Wheeler & Co. .		29 00	
Executions of Court : —			
Catharine M. Daly	$396 27		
Catharine King	529 25		
Delia McCaw	650 00		
		1,575 52	
Harbor master, Wm. J. Marvin		100 00	
Harvard Bridge expenses : —			
Professional services of			
Russell & Putnam . . .	$1,108 75		
Printing, G. B. Lenfest . .	47 00		
		1,155 75	
For High School Exhibition			
expenses, F. A. Hill		50 00	
Invalid Tax Deed,			
Stephen P. Weld		22 83	
Memorial Day, appropriations			
for G. A. R.		1,000 00	
Moving furniture		82 75	
New City Hall, public reception			
expenses		87 55	
Probation Officer : —			
Salary of Frederick W. Hagar	$583 31		
Stationery and printing . .	8 00		
		591 31	
Ringing bells on holidays . .		56 00	
Rindge Album, presented to			
Frederick H. Rindge: —			
Album and photographs,			
D. W. Butterfield . . .	69 00		
Lettering, Eben W. Pike . .	5 00		
		74 00	
Rindge Books: —			
Compiling, T. W. Higginson	75 00		
Photographs,			
D. W. Butterfield . . .	5 00		
Amount carried forward . . .	$80 00	$6,422 26	$14,350 00

Amounts brought forward . .	$80 00	$6,422 26	$14,350 00
Postage, Winkley Dresser .	5 00		
Printing, Heliotype Co. . .	96 00		
John Wilson & Son . . .	223 75		
		404 75	
Scales at Lechmere square . .		348 49	
Services of Wm. H. Orcutt, Esq. in Revision of Ordinances .		400 00	
Settlement of claim of D. Sullivan & Son for extras on Putnam school-house. .		52 00	
Veterinary Surgeon, Wm. Ferguson		350 00	
Weighing fees: —			
Thomas Gurnham	35 85		
Timothy Sullivan	62 62		
		98 47	
Total expenditures			8,075 97
Balance unexpended . .			$6,274 03

Inspection of Milk and Vinegar.

Appropriation			$1,000 00
Transferred from incidental expenses			50 00
			$1,050 00

RECEIVED.

For milk and butterine licenses .		$132 00	

EXPENDED.

For salaries of			
Inspector, Dr. F. A. Dunbar .	$600 00		
Deputy inspector, John F. Wheeler	204 00		
		$804 00	
Carriage hire		27 50	
Car tickets, W.E. St. Railway Co.		35 00	
Chemicals, instruments, etc.:—			
Dr. F. A. Dunbar	16 00		
Estate of Dr. A. F. Holt . .	25 00		
		41 00	
Samples of milk and vinegar, J. F. Wheeler		70 85	
Seals		3 00	
Amounts carried forward . . .		$981 35	$1,050 00

Amounts brought forward . . .		$981 35	$1,050 00
Stationery, printing, etc:—			
James H. Cox	21 75		
Educational Supply Co. . .	16 50		
Stationery Department . .	10 29		
John Ford & Son	6 75		
Harvard Printing Co. . . .	4 60		
		59 89	
Total expenditure			1,041 24
Balance unexpended . . .			$8 76

Inspection of Wires.

Appropriation			$2,500 00
Transferred from Fire Department	$3,000 00		
Incidental expenses	1,500 00		
Police Dept.	300 00		
			4,800 00
			$7,300 00

RECEIVED.

For Discount on bill	74	
Labor and materials,		
"Police Signal"	743 00	
Removing wires	15 25	
	$758 99	

EXPENDED.

For salaries of			
Inspector, Chas. H. Morse .	$500 00		
Assistants, Geo. J. Blaisdell .	720 03		
David J. Campbell . . .	288 02		
Arthur W. Daniels . . .	612 01		
Wm. C. Pierce.	532 50		
Temporary assistants . . .	1,501 37		
		$4,153 93	
Apparatus and repairs, electrical supplies, etc.:—			
Burditt & Bynner	116 35		
Eastern Elec. Supply & Construction Co.	94 78		
Gethins Elec. Mfg. Co. . .	164 57		
McDormand, Warner & Co. .	16 80		
N. E. Gamewell Co. . . .	89 95		
N. E. Telephone Co. . . .	127 85		
Amounts carried forward . . .	$610 30	$4,153 93	$7,300 00

Amounts brought forward . . .	$610 30	$4,153 93	$7,300 00
Pettingell, Andrews & Co. .	879 42		
G. O. Rollins	29 32		
Geo. M. Stevens & Co. . . .	402 59		
F. A. White	108 23		
Sundry persons	87 58		
		2,117 44	
Badges, J. E. Power		4 50	
Bedding, Worcester Bros. . .		2 50	
Board of horse, J. O. Whitten .		131 67	
Carpentry, Ira G. Hersey . .		89 42	
W. H. Norris		8 86	
Carriage, F. F. French & Co. .		150 00	
Carriage hire, J. O. Whitten .		54 00	
Car tickets, West End Street Railway Co.		60 00	
Cleaning battery room . . .		14 00	
Expressage		46 32	
Fuel, H. G. Jordan & Co. . .		19 56	
Harness and repairs		69 75	
Horse, Welch & Hall		165 00	
Horse-shoeing, Wm. Balmer .		24 92	
Labor taking down wires . .		73 47	
Poles, Cambridge Electric Light Co.		10 50	
Printing		9 50	
Sundry supplies		7 54	
Teaming poles, Colby Bros. . .		21 75	
Telephone rent and tolls, N. E. Telephone Co. . . .		21 54	
Use of wagon, harness, etc., Chas. Waugh & Co. . . .		26 25	
Washing bedding		17 43	
Total expenditure			$7,299 85
Balance unexpended . .			15

Interest.

Appropriation	$130,000 00
Surplus revenue	2,544 51
	$132,544 51
Amount carried forward . . .	$132,544 51

Amount brought forward		$132,544 51

RECEIVED.

For interest on deposits at First National Bank . . .	$2,054 57	
Accrued interest on bonds issued	922 22	
Interest on mortgage note . .	5 17	
Taxes	2,562 55	
	$5,544 51	

EXPENDED.

For interest on		
Cemetery Fund	$924 33	
Contingent Loan	8,000 00	
Daniel White Charity	300 00	
Dowse Institute Fund	600 00	
Funded Loan, coupons . . .	91,985 00	
Funded Loan, registered . .	13,975 00	
Sanders Temperance Fund . .	600 00	
Temporary Loan	10,796 25	
Total expenditures		$127,180 58
Balance unexpended . .		5,363 93

Law Department.

Appropriation, ...		$3,100 00

RECEIVED.

From Cambridge Water Works for services of City Solicitor . .	$1,500 00	

EXPENDED.

For salary of City Solicitor, Chas. J. McIntire	$2,500 00	
Carriage hire, J. O. Whitten .	3 00	
Car tickets, W. E. Street Railway Co. . .	30 00	
Cash for sundries, C. J. McIntire	50 58	
Copy of Declarations, Middlesex Co.	1 00	
Amounts carried forward . .	$2,584 58	$3,100 00

Amounts brought forward . .		$2,584 58	$3,100 00
Report of hearings,			
J. M. W. Yerrington . . .		36 35	
Services, P. Allen Lindsey . .		13 50	
Stationery supplies		31 40	
Type-writing, Geo. B. French .		165 11	
Total expenditures			2,830 94
Balance unexpended,			269 06

Lighting Streets.

Appropriation	$55,000 00
Surplus revenue	50 65
	$55,050 65
Transferred to Incidental Expenses	6,000 00
	$49,050 65

RECEIVED.

For old material:—			
Lanterns	$10 00		
Old copper	8 00		
Old iron	40 15		
		58 15	
Damage to lantern		1 60	
Setting and removing lamp-posts		65 90	
		$125 65	

EXPENDED.

For salaries of			
Supt. B. Otis Danforth . . .		900 00	
Lamplighters		7,215 52	
			$8,115 52
Board of horse			13 57
Carriage hire for committee . .			44 50
Car tickets,			
W. E. Street Railway Co. .			25 00
Chimneys:—			
Jones, McDuffie & Stratton .		99 55	
Union Glass Co.		17 36	
			116 91
Expenses of Committee and Superintendent to Springfield, Mass.			35 00
Expressage			3 85
Amounts carried forward . .			$8,354 35 $49,050 65

Amounts brought forward . .			
For Hardware, tools, etc.:—		$8,354 35	$49,050 65
Burditt & Bynner	179 49		
Brock Bros.	9 10		
Greene & Co.	15 14		
The Gould & Watson Co. . .	28 85		
		232 58	
Harness and repairs:—			
James Forgie & Son . . .	53 50		
Charles Harvey	12 00		
Hugh McCaffrey	3 45		
		68 95	
Labor, setting lamp-posts, etc.:—			
Robert Foster	36 50		
William Foster	91 50		
William Hamahan	48 00		
G. W. Montgomery	65 50		
Louis Rock	36 00		
Henry Whiteley	18 25		
Sundry persons	7 00		
		302 75	
Ladders,			
C. W. H. Moulton & Co. . .		6 25	
Lighting:—			
Cambridge Electric Light Co.	25,010 39		
Cambridge Gas Light Co. . .	13,480 41		
		38,490 80	
Oil, Maverick Oil Co.		279 24	
Stationery, printing, postage, etc.:—			
James H. Cox	14 25		
Harvard Printing Co. . . .	4 40		
Stationery department . . .	10 56		
		29 21	
Sundries		14 74	
Use of horse, wagons, etc. . .		41 00	
Wagon, Chas. Waugh & Co. .		165 00	
Wagon repairs		5 05	
Total expenditures			47,989 92
Balance unexpended . .			$1,060 73

Pauper Department, Almshouse.

Appropriation	$20,500 00
Surplus revenue	1,311 60
Amount carried forward . . .	$28,811 60

Amount brought forward . . .			$21,811 60

RECEIVED.

For barrels		$15 40	
Board of inmates		1,065 61	
Discount on bills		2 59	
Farm produce		120 00	
Grease and bones		98 26	
Old materials		21 78	
Rags		7 17	
Revenue from chair shop . .		844 62	
Weighing fees		45	
From Commonwealth of Mass.:—			
For contagious diseases	$76 66		
Sick poor	56 20		
Temporary aid . .	2 86		
		135 72	
		$2,311 60	

EXPENDED.

For salaries of:—				
Supt. M. L. Eldridge		$1,500 00		
Asst. Supts.:—				
Fred N. Vose . .	$138 30			
Wm. P. Lindsey .	28 30			
M. A. Warren . .	429 42			
		596 02		
Chaplain, Rev. F. W. Holland .		100 00		
School teacher, Alice H. Fawcett		450 00		
Organist and music teacher,				
Minnie G. Hillman		150 00		
Sundry house officials		3,350 21		
			6,146 23	
Advertising, Boston Herald Co.			10 50	
Ambulance fees, C. W. Dailey .			5 00	
Board and care of sick at Carney				
Hospital			49 14	
Burial fees:—				
Cambridge Cemetery	$6 00			
H. D. Litchfield . .	28 15			
			34 15	
Cane for chair shop,				
Wakefield Rattan Co.			411 35	
Cash expended for sundries,				
M. L. Eldridge			232 62	
Amounts carried forward . , ,			$6,888 99	$21,811 60

Amounts brought forward . . .		$6,888 99	$21,811 60
For clothing, dry goods, bedding etc.:—			
Brown, Durrell & Co. . . .	408 82		
Dyer, Rice & Co.	27 38		
Fowle, Cobb & Pearson . .	39 53		
Jordan, Marsh & Co. . . .	685 72		
Mass. Boot & Shoe Co. . .	116 45		
Leopold Morse & Co. . . .	187 25		
William Myers	104 30		
H. Sleap & Co.	26 80		
Smith, Whiting, Conner & Co.	179 00		
C. D. Wilder	148 37		
		$1,923 62	
Expressage, Bancroft's express		28 95	
Fancy goods, toys, etc.:—			
B. H. Landman	8 22		
Horace Partridge	8 87		
		17 09	
Fuel, H. G. Jordan & Co. . .		1,341 69	
Furniture and furnishings:—			
Charles W. Allen	13 50		
Bubier & Co.	13 00		
D. W. Gage	35 75		
Milton Gage	39 40		
Oscar F. Howe	41 00		
George R. McFarlin . . .	102 19		
John H. Pray Sons & Co. . .	39 69		
Worcester Bros.	39 40		
		323 93	
Gas, Cambridge Gas Light Co.		292 80	
Glass, Lambert Bros.		6 75	
Hardware, tools and supplies,			
Burditt & Bynner	146 29		
D. W. Gage	47 35		
F. A. White	25 85		
		219 49	
Hay and grain, Clark Bros. . .		283 08	
Heating and cooking apparatus,			
Walworth Mfg. Co.	62 50		
Magee Furnace Co.	10 65		
Sundry persons	9 98		
		83 13	
House repairs:—			
Carpentry, John H. Duffy . .	15 00		
Mason work, M. N. Stearns . .	378 26		
Amounts carried forward . . .	$393 26	$11,409 52	$21,811 60

Amounts brought forward . .	$393 26	$11,409 52	$21,811 60
For house repairs:			
Plumbing, etc:—			
D. W. Gage & Co. . $8 02			
W. B. Kneeland . . 47 66			
J. H. Stearns & Co. . 200 23			
	255 91		
Roof repairs, D. W. Gage . .	103 55		
		752 72	
Ice, H. D. & W. S. Durgin . .		138 25	
Lumber, lime and cement:—			
Geo. W. Gale Lumber Co. .	207 41		
Wm. H. Wood & Co. . . .	3 15		
		210 56	
Medicines, instruments, etc.:—			
Gilman Bros.	267 39		
Sundry persons	21 65		
		289 04	
Newspapers, J. W. Hunnewell		24 00	
Nurses		46 30	
Oil, W. A. Wood & Co. . . .		25 07	
Plants and seeds		9 30	
Rent of market stand,			
Mercantile Wharf Co. . . .		40 00	
Rubber goods, C. S. Knowles .		19 50	
School supplies, School Dept. .		23 51	
Sealing scales		1 77	
Soap, F. H. Teele		185 00	
Stationery supplies		32 50	
Subsistence supplies:—			
Boyd, Leeds & Co.	654 55		
Cheney, Upham & Co. . . .	21 35		
Clark Bros.	84 22		
Cobb, Bates & Yerxa . . .	557 75		
David Ellis & Co.	660 67		
E. E. Harrington	723 73		
C. F. Hathaway	42 59		
F. M. Holmes	30 48		
A. J. Littlefield & Co. . . .	846 42		
A. J. Lovell & Co.	111 09		
McPherson Bros.	696 71		
Walter Nash	1,959 58		
N. Y. Biscuit Co.	43 47		
Fred D. Norton	455 13		
Geo. G. Parker	30 66		
Geo. E. Richardson & Co. .	59 36		
Sands, Page & Taylor . . .	554 25		
Amounts carried forward . . .	$7,532 01	$13,207 04	$21,811 60

Amounts brought forward . .	$7,532 01	$13,207 04	$21,811 60
For subsistence supplies: —			
S. S. Sleeper & Co.	107 53		
Swan, Newton & Co. . . .	20 00		
L. A. Treat	133 25		
Utley & Boynton	103 86		
S. P. Worthley	457 70		
Sundry persons	71 72		
		8,426 07	
Telephone rent and tolls, N. E. Telephone Co.		39 20	
Use of barge, West End Street Railway Co.		7 00	
Total expenditures			21,679 31
Balance unexpended . .			$132 29

Pauper Department, Farm and Ledge.

Appropriation	$6,500 00
Surplus revenue	1,217 60
	$7,717 60

RECEIVED.

For barrels	$16 06	
Farm produce	5,093 68	
Rebates	8 00	
Repairing tools	5 10	
Stone	6,094 76	
	$11,217 60	

EXPENDED.

For labor on farm		$2,124 49	
Cows: —			
John Bogge	$40 00		
Jeremiah Sullivan	105 00		
		145 00	
Fertilizer, E. A. Muller . . .		10 00	
Flower-pots, John McVey . .		2 00	
Hay, grain and straw, Clark Bros.		31 60	
Hose, C. S. Knowles		20 00	
Hot-bed sashes, Cutter & Parker		175 00	
Amounts carried forward . . .		$2,508 09	$7,717 60

Amounts brought forward . .		$2,508 09	$7,717 60
For Manure: —			
L. L. Carter	74 37		
Pat Cahill	16 00		
Michael Collins	61 00		
James Culhane	11 22		
P. J. Curley	24 00		
Lawrence Dempsey . . .	16 25		
J. F. Elkins	56 60		
Fire Department	75 00		
W. E. Hutchens, Gd. . . .	20 62		
John Igo	20 00		
Jeremiah Keefe	14 00		
Timothy Keefe	182 00		
M. F. Lamb	21 56		
J McCrehan	68 34		
Pat McNamara	19 87		
Thomas Moran	19 31		
M. Murphy	73 00		
T. Murphy	8 16		
John Quinn	56 16		
J. M. Riley	72 56		
Peter Tumilty	50 87		
J. F. White	121 22		
		$1,082 11	
Pigs: —			
Geo. McManus	55 00		
D. L. Tappan	36 00		
		$91 00	
Pullets, Wm. Wheeler . . .		26 00	
Seeds, plants, etc.			
Wm. A. Bock	5 95		
Geo. H. Chessman & Co. . .	7 50		
E. E. Harrington	25 85		
W. Gleason & Co.	7 50		
Schlegel & Fottler	109 13		
		155 93	
Tools, Parker & Wood . . .		24 20	
		3,887 33	
Labor on ledge	3,065 15		
Fuel, L. G. Burnham & Co. .	24 25		
Lumber,			
George W. Gale Lumber Co.	263 54		
Powder, Geo. H. Sampson . .	248 59		
Sundries	3 60		
Amounts carried forward . . .	$3,605 13	$3,887 33	$7,717 60

Amounts carried forward . .	$3,605 13	$3,887 33	$7,717 60
Tools, hardware and repairs : —			
Dodge, Haley & Co. . 23 15			
R. S. Easter & Son . 2 80			
Edw. Fitzgerald . . 155 85			
Perrin, Seamans & Co. 3 70			
The Fairbanks Co. . 36 17			
	221 67		
		3,826 80	
Total expenditures			7,714 13
Balance unexpended . .			$3 47

Pauper Department, House Offal.

Appropriation	$18,500 00
Surplus revenue	216 77
	$18,716 77

RECEIVED.

For House Offal	$7,716 77	

EXPENDED.

For Labor as per pay rolls . . .		$15,136 00	
Advertising		9 00	
Curry combs and brushes,			
Oscar F. Howe		33 00	
Drugs,			
Rust & Richardson Drug Co.		29 17	
Harness and repairs:—			
Dyer, Rice & Co.	29 00		
Wm. Mitchell	47 30		
Sartwell, Heinold & Humphrey	39 50		
		$115 80	
Hay, grain, straw and meal:—			
Clark Bros.	1,447 28		
John Cummings	58 30		
E. H. Luke & Son	73 38		
McPherson Bros.	198 67		
H. H. Turner & Co. . . .	189 00		
Geo. G. Wright	221 70		
Sundry persons	40 80		
		$2,229 13	
Horse, C. S. Barnard		150 00	
Amounts carried forward . . .		$17,702 10	$18,716 77

Amounts brought forward . .		$17,702 10	$18,716 77
For Horseshoeing: —			
Wm. Bell	294 70		
J. W. Gerry	48 19		
John B. Rufer	19 65		
		$362 54	
Lumber, J. Sewell & Co. . .		75 50	
Oil, soap etc.,			
Alden Speares' Sons . . .		12 69	
Sundries		5 40	
Tools and repairs, hardware, etc.: —			
Burditt & Bynner	13 67		
Dodge, Haley & Co. . . .	31 49		
R. S. Easter & Son	55 65		
Parker & Wood	4 38		
		105 19	
Wagon repairs: —			
R. S. Easter & Son	178 25		
Jas. A. Henderson & Co. . .	43 65		
F. Ivers & Son	72 05		
James Miller	157 25		
		451 20	
Total expenditures			$18,714 62
Balance unexpended . . .			$2 15

Pauper Department, Outside Aid.

Appropriation	$30,000 00
Transferred from Incidental Expenses	3,500 00
	$33,500 00

RECEIVED.

For aid to, board and burial of paupers: —		
By cities, towns and individuals	$2,071 57	
Commonwealth of Massachusetts	1,167 69	
Transportation	7 00	
	$3,246 26	
Amounts carried forward . .		$33,500 00

Amounts brought forward . .			$33,500 00

EXPENDED.

For Salaries of			
Secretary, D. P. Muzzey . . .	$1,500 00		
Visitor, V. Danforth	1,500 00		
Clerk, Addie M. Benson . . .	516 00		
		$3,516 00	
Advertising, James Cox . . .		4 75	
Aid to sundry persons		841 90	
Ambulance fees, C. W. Dailey .		78 50	
Board and care of sundry persons		2,488 70	
Bags, twine etc.,			
William H. Claflin & Co. . .		14 97	
Binding books		17 45	
Burial fees,			
Cambridge Cemetery . . .		108 00	
Burials, H. D. Litchfield . . .		241 40	
Care of sick, insane and feeble minded at : —			
Boston Children's Aid Society	174 63		
Cambridge Hospital	215 00		
Carney Hospital	270 43		
Children's Hospital	46 35		
Danvers Lunatic Hospital . .	2,293 40		
Essex Co. Truant School . .	32 50		
Lawrence Industrial School .	20 00		
House of Correction	95 86		
Northampton Lunatic Hospital	169 46		
Mass. School for the Feeble-Minded	1,024 98		
Taunton Lunatic Hospital .	449 52		
The Hospital Cottages for Children	90 54		
Westborough Insane Asylum	1,919 18		
Worcester Insane Asylum .	3,485 37		
Worcester Lunatic Hospital .	5,507 46		
Commonwealth of Mass. at :			
Danvers Lunatic Hospital .	249 32		
Northampton Lunatic Hospital	27 39		
State Almshouse	512 17		
State Farm	528 80		
Amounts carried forward . . .	$17,112 36	$7,311 67	$33,500 00

Amounts brought forward . . .	$17,112 36	$7,311 67	$33,500 00
Westborough Insane Asylum	343 58		
Worcester Insane Asylum .	42 71		
Worcester Lunatic Hospital .	1,641 53		
		$19,140 18	
Carpentry		78 59	
Car-tickets W. E. St. Railway Co.		200 00	
Cash for sundries, D. P. Muzzey		75 64	
Clothing, boots and shoes, dry goods, etc.			
William H. Claflin & Co. . .	8 67		
E. P. Craig	13 00		
Jordan, Marsh & Co. . . .	85 67		
C. D. Wilder	923 99		
		$1,031 33	
For Directories:—			
W. A. Greenough & Co. . . .	5 00		
Sampson, Murdock & Co. . .	22 00		
		27 00	
Fuel, H. G. Jordan & Co. . .		872 63	
Gas, Cambridge Gas Light Co. .		170 52	
Ice, Cambridge Ice Co. . . .		7 00	
Loss of goods, Gilbert Brown .		12 43	
Medicines, surgical instruments, etc.		311 99	
Nurses		17 00	
Professional services of physicians		27 00	
Pung, James Miller		100 00	
Relief of paupers by cities and towns:—			
City of Boston	1,153 29		
City of Chelsea	56 00		
City of Lawrence	5 69		
City of Lowell	6 42		
City of Lynn	138 75		
City of Malden	62 40		
City of New Bedford . . .	24 25		
City of Somerville	119 75		
City of Worcester	52 25		
Town of Bridgewater . . .	203 43		
Town of Everett	8 00		
Town of Hudson	59 66		
Amounts carried forward . . .	$1,889 89	$29,382 98	$33,500 00

Amounts brought forward . . .	$1,889 89	$29,382 98	$33,500 00
Town of Medford	76 35		
Town of Methuen	271 05		
Town of Reading	27 00		
		2,264 29	
For Stationery and printing :—			
F. W. Barry, Beal & Co. . .	93 68		
John Ford & Son	101 00		
Harvard Printing Co. . . .	74 89		
Thorp & Adams Mfg. Co. . .	68 60		
Sundry persons	25 35		
		363 52	
Subsistence supplies to paupers:—			
Boyd, Leeds & Co.	70 24		
Cobb. Bates and Yerxa . .	54 39		
Clark Bros.	328 10		
D. H. Dean	97 75		
W. H. Dodge	18 00		
H. N. Hovey & Co.	144 17		
J. A. Holmes & Co. . . .	324 50		
McPherson Bros.	175 17		
A. McNaughton	3 84		
		1,216 16	
Sundries		4 00	
Telephone rent and tolls, N. E. Telephone Co. . . .		115 60	
Travelling expenses:—			
V. Danforth	$123 63		
Wm. H. Pear	21 35		
Dr. C. E. Vaughan	5 00		
		$149 98	
Total expenditures			$33,496 53
Balance unexpended . . .			$3 47

Pauper Department, Salary of Assistant City Physician.

Appropriation	$1,500 00

EXPENDED.

For salary of assistant city physician, Dr. L. L. Bryant . . .	$1,500 00

Police Department.

Appropriation	$95,000 00
Surplus revenue	6,154 10
Amount carried forward . . .	$101,154 10

Amount brought forward . .			$101,154 10
Transferred to			
Incidental Expenses	1,000 00		
Inspection of Wires	300 00		
			1,300 00
			$99,854 10

RECEIVED.

For cloth for uniforms		$564 89	
Court fees and fines		10,577 71	
Transportation		11 50	
		$11,154 10	

EXPENDED.

For salaries of			
Chief L. J. Cloyes	$1,700 00		
Captains, M. J. Folsom . . .	1,248 00		
T. H. Lucy	1,248 00		
J. F. Murray	1,248 00		
Inspectors, L. J. Ducey . . .	1,222 47		
A. L. Harriman	1,186 25		
Court officer, W. F. Batchelder	1,186 25		
Sergeants	7,584 00		
Patrolmen	71,655 07		
Matrons	624 00		
		$88,902 04	
Atlas of Mass.,			
Geo. H. Walker & Co. . . .		15 00	
Badges,			
A. W. Mitchell M'f'g Co. .		15 00	
Belts, H. A. Winship		11 50	
Care of battery,			
Chas. W. Priest		30 00	
Carpentry :—			
Joy & Hall	31 18		
W. H. Norris	69 18		
C. L. Weldon	313 00		
Wm. P. Hanscom	4 79		
		418 15	
Carriage and horse hire:—			
C. W. Dailey	44 50		
J. E. Fabyan	8 00		
E. E. Gould	15 00		
D. W. Rice	4 50		
J. O. Whitten	19 00		
		91 00	
Amounts carried forward . . .		$89,482 69	$99,854 10

Amounts brought forward . . .		$89,482 69	$99,854 10
Car tickets, W.E. St. Railway Co.		230 00	
Cash for sundries:—			
L. J. Cloyes	75 05		
L. J. Ducey	137 20		
M. J. Folsom	140 80		
T. H. Lucy	51 50		
J. F. Murray	38 47		
F. B. Pullen	15 75		
		458 77	
Cleaning carpets		4 13	
Cleaning stations		111 00	
Cloth for uniforms,			
Wendell, Fay & Co. . . .		572 94	
Clubs and acorns,			
Wm. F. Chester		18 75	
Damages, John J. Horgan . .		3 00	
Directories		17 50	
Expressage		8 60	
Fire-arms, Wm. Read & Sons .		26 85	
Furniture, bedding, etc. . . .		72 49	
Gas, Cambridge Gas Light Co. .		1,010 96	
Gas fittings		48 60	
Hardware, tools, etc.		70 87	
Hay, grain and straw		220 53	
Horse board :—			
C. W. Dailey	264 00		
J. O. Whitten	318 33		
		582 33	
Horse, clipping		18 00	
Horse, medicine		4 15	
Horse shoeing :—			
Wm. Balmer	21 88		
Wm. F. Garrett & Co. . . .	28 00		
D. H. Lehan	3 00		
Thomas Smith	33 25		
		86 13	
Ice		45 87	
Photographs of prisoners . . .		18 50	
Police Signal System: —			
Municipal Signal Co. . . .	1,897 00		
Inspection of Wires Department	743 00		
		2,640 00	
Police patrol wagon and harness: —			
Chas. Waugh & Co. . . .	392 00		
Owen Doherty	125 00		
		517 00	
Amounts carried forward . . .		$96,269 66	$99,854 10

Amounts brought forward . .		$96,269 66	$99,854 10
For Police signal supplies:—			
Chas. L. Bly	140 00		
F. M. Kimball & Co. . . .	23 60		
N. E. Gamewell Co. . . .	360 70		
E. Rogers & W. E. Decrow .	30 35		
F. H. Holton & Co.	6 13		
Pettingell, Andrews & Co. .	5 21		
A. L. Russell	9 30		
Simplex Electric Co. . . .	5 44		
Wright Electric Co.	23 71		
		604 44	
Plans, C. H. McClare		10 00	
Professional services of physicians		18 00	
Refreshments		26 57	
Regalia:—			
S. O. Aborn	7 50		
D. Evans & Co.	50 00		
J. E. Marshall	8 50		
		66 00	
Rope, E. I. Train		13 05	
Stationery and printing:—			
Cotton & Gould	70 74		
Harvard Printing Co. . . .	70 05		
W. D. Smith	2 50		
Stationery department . . .	45 09		
John Wilson & Son	242 76		
Winkley, Dresser & Co. . .	17 23		
		448 37	
Sundry supplies		27 99	
Tagging police lines,			
John A. Cunio		90 00	
Telephone, rent and tolls,			
N. E. Telephone Co. . . .		616 55	
Wagon and harness repairs:—			
F. L. Chapman	37 00		
L. C. Chase & Co.	8 15		
John Hancock	4 55		
Wm. Mitchell	3 25		
Chas. Waugh & Co.	76 75		
Sundry persons	4 95		
W. H. Woodbury	38 00		
		172 65	
Total expenditures			$98,363 28
Balance unexpended . .			$1,490 82

Public Property (City Buildings, Care and Repairs).

Appropriation			$22,000 00
Transferred to Incidental Expenses			300 00
			$21,700 00
RECEIVED.			
For damage		3 00	
Rebate on bill		5 00	
Rents :—			
Amories	$800 00		
Tenement	99 97		
Water Works office, etc.	2,000 00		
		2,899 97	
		$2,907 97	
EXPENDED.			
Old City Hall :—			
For lighting	$97 99		
Repairs	11 07		
		109 06	
New City Hall :—			
For salaries of			
Janitor, Chas. A. Gay	$1,198 55		
Assistants:—			
Warren Ivers . . .	330 00		
James McVay . .	345 00		
Nellie Carey . . .	405 10		
Josie Cronin . . .	388 00		
Elevator boy,			
Wm. E. Brown . .	263 00		
Engineer, Edw. B. Dale	1,040 00		
Fireman, Jas. Saunders	282 00		
Watchmen:—			
Thomas Davis . . .	354 00		
James Saunders . .	280 00		
Joseph Hazlett . .	82 00		
		4,967 65	
Brushes, brooms, dusters, etc.:—			
F. M. Eaton . . .	11 50		
A. Worcester & Sons	28 32		
		39 82	
Cleaning, sundry persons as per pay rolls . .		360 60	
Amounts carried forward		$5,368 07	$109 06 $21,700 00

Amounts brought forward		$5,368 07	$109 06	$21,700 00
Cleaning and laying carpets; G. F. Ricker .		31 22		
Composition plates, L. D. Willcutt . . .		30 00		
Disinfectants, India Alkali Co. . .		16 90		
Drain work, Samuel McCulloch .		17 00		
For Electrical supplies .		54 47		
Engine supplies: —				
Boston Woven Hose Co.	3 75			
A.W.Chesterton & Co.	40 50			
L.W. Ferdinand & Co.	10 36			
Gould Packing Co. .	11 56			
Henry C. Hunt . .	45 89			
Nightingale & Childs	79 76			
Vacuum Oil Co. . .	81 38			
Walworth Mfg. Co. .	3 00			
		276 20		
Fuel: —				
L. G. Burnham & Co.	775 50			
H. G. Jordan & Co. .	1,044 62			
H. Wellington & Co.	494 42			
Sundry persons . .	25 71			
		2,340 25		
Furniture and furnishings: —				
H. H. Cobb . . .	25 75			
Derby, Kilmer Desk Co.	27 00			
James Furfey . . .	76 52			
Keeler & Co. . . .	20 00			
J. M. Oxford & Co. .	34 00			
Paine's Furniture Co.	215 45			
Phillips Bros. . . .	169 05			
T. B. Wentworth . .	28 00			
Sundry persons . .	16 35			
		612 12		
Gavel blocks: —				
Chas. E. Hall . . .		7 00		
Hardware, tools, etc.: —				
C. L. Bradlee . . .	29 03			
Burditt & Bynner . .	104 45			
Cotton & Gould . .	47 00			
Amounts carried forward	$180 48	$8,753 23	$109 06	$21,700 00

Amounts brought forward	$180 48	$8,753 23	$109 06	$21,700 00
Dodge, Haley & Co. .	16 22			
S. C. Higgins . . .	28 86			
Whittier Hardware Co.	74 50			
Sundry persons . .	23 61			
		323 67		
Ice: —				
Fresh Pond Ice Co. .		72 90		
Lighting: —				
Cambridge Elec. Lt. Co.	817 00			
Cambridge Gas Lt. Co.	419 47			
		1,236 47		
Lighting apparatus: —				
George F. Dickson .	151 71			
Edison General Elec. Co.	55 70			
S. C. Higgins . . .	13 07			
C. H. McKenney & Co.	2 25			
N. W. Turner Co. .	21 44			
		244 17		
Moving furniture: —				
J. R. & C. S. Hersum		55 00		
Moving safes: —				
Damon Safe and Iron Works		57 55		
Repairs and alterations: —				
Carpentry,				
Joy & Hall	175 32			
W. H. Norris & Co. .	1,476 27			
Clocks, A. J. Applegate	18 00			
Heating apparatus,				
O. P. Greenleaf . .	15 10			
Locke Bros. . . .	150 00			
Machinery	16 13			
Mason work,				
A. P. Greenleaf . .	22 10			
Leach & Grant . .	26 00			
Painting, etc.: —				
J. L. P. Ackers . .	220 72			
Clifford Hunting . .	66 41			
J. H. & J. P. Thayer & Co.	215 73			
Amounts carried forward	$2,401 78	$10,742 99	$109 06	$21,700 00

Amounts brought forward	$2,401 78	$10,742 99	$109 06	$21,700 00
Plumbing,				
Levi Hawkes & Co.	73 15			
S. C. Higgins . .	90 94			
Sundry repairs . .	21 92			
		$2,587 79		
Step ladders,				
C.W.H.Moulton &Co.		28 70		
Soap		34 02		
Sundry supplies . . .		46 39		
Uniform for elevator boy,				
G. W. Simmons & Co.		8 05		
Waste baskets,				
Cotton & Gould . .		19 00		
Washing towels,				
Nellie Carey . . .		50 46		
Water cooler,				
Davis Mfg. Co. . .		16 00		
			13,533 40	
Ward One Building:—				
For salary of janitor,				
Charles Munroe . .		1,248 00		
Alterations and repairs:—				
I. P. Estes	161 15			
W. H. Norris . . .	173 95			
W. B. Holt	76 80			
E. Tripp & Co. . .	62 00			
Brock Bros. . . .	66 92			
John J. Blevins . .	47 40			
Sundry persons . .	77 92			
		666 14		
Drain work,				
Samuel McCulloch .		25 00		
Furniture and furnishings		41 20		
Fuel:—				
L. G. Burnham & Co.	361 90			
H. Wellington & Co.	187 71			
Sundry persons . .	9 40			
		559 01		
Lighting: —				
Cambridge Electric Light Co. . . .	170 00			
Cambridge Gas Lt. Co.	614 08			
		784 08		
Amounts carried forward		$3,323 43	$13,642 46	$21,700 00

Amounts carried forward		$3,323 43	$13,642 46	$21,700 00
Sundry supplies . . .		31 77		
			3,355 20	
Ward Two Building:—				
For carpentry,				
Colin Chisholm . .		24 23		
Drain work,				
Samuel McCulloch .		13 92		
Plumbing,				
D. J. Keefe & Co. .		32 98		
Repairing roof,				
John J. Blevins . .		13 50		
			84 63	
Ward Three Building:—				
For alterations and repairs:—				
J. E. Dennison . .	75 07			
W. H. Norris . . .	6 27			
Thomas Harrison .	18 38			
Wm. Kelley . . .	12 00			
F. H. Tufts . . .	4 00			
E. Tripp & Co. . .	40 00			
M. F. Davlin & Co.	7 25			
M. F. Marks . . .	73 10			
		236 07		
Care of building:—				
L. H. Dale	40 00			
John McCarthy . .	50 00			
		90 00		
Furnishings:—				
Wm. J. Ryan . . .	10 50			
J. M. Price & Son .	20 09			
		30 59		
Gas, Camb. Gas L't Co.		5 92		
			$362 58	
Ward Four Building:—				
For Salary of janitor,				
Geo. D. Brown . .		1,198 55		
Alterations and repairs:—				
Joy & Hall	134 82			
W. H. Norris . . .	148 14			
G. F. Dickson . . .	55 74			
S. C. Higgins . . .	114 50			
J. L. P. Ackers . .	61 39			
Forrest & Stewart .	50 00			
Amounts brought forward	$564 59	$1,198 55	$17,444 87	$21,700 00

Amounts brought forward	$564 59	$1,198 55	$17,444 87	$21,700 00
J.H.&J.P.Thayer&Co.	125 24			
E. Tripp	98 95			
Levi Hawkes . . .	219 43			
	——	1,008 21		
Cleaning clock,				
F. A. Colburne . .		1 00		
Cleaning and laying carpets,				
G. F. Ricker . . .		20 80		
Expressage		1 09		
Fuel		6 92		
Furniture and furnishings:—				
Joel Goldthwait . .	19 58			
Keeler & Co. . . .	5 00			
J. H. Kelsey . . .	24 90			
Paine Furniture Co. .	100 00			
	———	149 48		
Gas, Camb. Gas Lt. Co.		340 80		
Supplies		15 33		
		———	2,742 18	
Ward Five Building:—				
For Alterations and repairs:				
George T. Durgin .	22 66			
J. J. Shedd	24 05			
	———	46 71		
Care of building,				
J. E. Ricker . . .		50 00		
Drain work,				
Samuel McCulloch .		31 93		
Furniture and furnishings, Worcester Bros.		48 00		
Gas, Camb. Gas Lt. Co.		6 56		
Supplies		22 15		
		———	205 35	
Engine House No. 2 :—				
For Alterations and repairs				
J. L. P. Ackers . . .	24 21			
M. C. Brownell . . .	5 47			
G. F. Dickson . . .	4 26			
Levi Hawkes & Co. .	25 25			
Samuel McCulloch . .	80 03			
W. H. Norris	74 60			
	———		213 82	
Amounts carried forward . . .			$20,606 22	$21,700 00

Amounts brought forward . . .			$20,606 22	$21,700 00
Engine House No. 6 :—				
For Carpentry,				
John Quinn . . .	220 66			
W. H. Norris . . .	12 34			
Mary Chandler . .	17 02			
		250 02		
Setting radiators,				
C. W. Rugg . . .		30 00		
Sundries		4 63		
			284 65	
Hook and Ladder Building : —				
For Alterations and repairs			64 47	
Bath house : —				
For salary of				
Supt. Fred. Clover .		312 50		
Ensign,				
I. W. Wheeler & Co.		3 30		
Repairs : —				
J. L. P. Ackers . .	$104 45			
Fred. Clover . . .	84 30			
Alex. McInnis . . .	217 00			
		405 75		
			721 55	
Total expenditures . .				21,676 89
Balance unexpended				$23 11

Public Property, Incidentals.

Appropriation	$3,450 00
Transferred to Incidental Expenses	700 00
	2,750 00

EXPENDED.

For Salary of Superintendent of Buildings, Benjamin H. Steele		1,750 00	
Clerical assistance		100 75	
Stationery and printing . . .		77 94	
Board and care of Superintendent's horse, G. D. Merrill & Co.		290 00	
Carriage and harness repairs: —			
F. Ivers & Son	33 70		
G. D. Merrill & Co.	33 50		
		67 20	
Car tickets: —			
West End Street Railway Co.		10 00	
Amounts carried forward . .		$2,295 89	$2,750 00

Amounts brought forward . .		$2,295 89	$2,750 00
For Care and repair of tower clocks:—			
C. H. Chandler	26 00		
W. L. Crosby	19 50		
First Universalist Society . .	26 00		
E. Howard Clock Co. . . .	1 50		
Austin K. Jones	52 00		
George P. Small	6 50		
George M. Stevens	43 79		
H. S. Woodworth	32 00		
		207 29	
Expenses of Committee on Public Property:—			
Carriage hire	53 00		
Refreshments	23 00		
		76 00	
Horse shoeing, Wm. Balmer .		22 45	
Repairing flag		1 50	
Rifle range:—			
Painting, J. C. Sheafe . . .	1 50		
Rent of land, Harriet L. Stone	60 00		
		61 50	
Total expenditures			2,664 63
Balance unexpended . . .			$85 37

Public Property (New City Hall Furnishings).

Appropriation			$8,000 00
EXPENDED.			
For Andirons,			
Murdock Parlor Grate Co. .		$63 75	
Annunciator,			
Holtzer-Cabot Electric Co. .		20 05	
Carpeting,			
Joel Goldthwait & Co. . . .		1,074 92	
Directory:—			
Slabs, Bowker, Torry & Co.		60 00	
Furniture,			
Cambridge Water Works . .	30 00		
Daniels, Badger & Co. . .	29 50		
Derby & Kilmer Desk Co. .	54 00		
Flanagan Bros.	1,540 00		
Amounts carried forward . .	$1,653 50	$1,218 72	$8,000 00

Amounts brought forward . .	$1,653 50	$1,218 72	$8,000 00
Keeler & Co.	56 00		
Paine's Furniture Co. . . .	601 75		
Phillips Bros. & Co. . . .	609 00		
		2,920 25	
Gas fixtures,			
C. H. McKenney & Co. . .		2,250 50	
Installing electric lights,			
Seth W. Fuller		614 86	
Marble clock,			
E. Howard Clock Co. . . .		90 00	
Mirrors and frames, H. H. Cobb		183 00	
Press stand,			
Winkley, Dresser & Co. . .		10 00	
Services of architects,			
Longfellow, Alden & Harlow		415 50	
Shades, Frank P. Snyder . . .		295 00	
Total expenditures			$7,997 83
Balance unexpended . .			$2 17

Public Property (New Engine House in Ward Four).

Appropriation	$12,200 00
Surplus revenue	26 30
Transferred from Fire Department	574 47
	$12,800 77

RECEIVED.

For One-half cost of fence,	
Neil Doherty	$26 30

EXPENDED.

For Architect's services,		
Geo. Fogerty	$180 82	
Building contract with		
John Quinn	10,194 00	
Carpentry, W. H. Norris . . .	210 01	
Connecting gas meter,		
Cambridge Gas Light Co. . .	11 28	
Fuel, L. G. Burnham & Co. .	41 36	
Gas fixtures, N. W. Turner Co.	39 96	
Heating apparatus contract with		
Chas. W. Rugg	700 00	
Amount carried forward . . .	$11,377 43	$12,800 77

Amount brought forward . . .		$11,377 43	$12,800 77
For Hose washing apparatus,			
Chas. S. Hilbert		84 62	
Paving driveway, Street Dept. .		574 47	
Plumbing, S. C. Higgins . . .		88 49	
Sliding pole,			
Scrannage Bros. & Cook . .		50 00	
Wagon and coal shed,			
John McDonald & Son . . .		597 00	
Total expenditures			$12,772 01
Balance unexpended . .			$28 76

Public Property (School Houses, "Care and Repairs").

Appropriation			$44,000 00
Revenue appropriated			47 37
			$44,047 37
Transferred to incidental expenses	$1,900 00		
Morse school	1,200 00		
			3,100 00
			$40,947 37

RECEIVED.

For old iron	$2 50	
One-half cost of fences . . .	44 87	
	$47 37	

EXPENDED.

For salaries of janitors		$14,620 53	
Baskets, Cotton & Gould . . .		28 00	
Blackboards, J. A. Swasey . .		15 00	
Carpentry:—			
N. W. Bunker	$18 17		
I. P. Estes	111 30		
John Barker	42 78		
Geo. Lloyde	4 00		
W. H. Norris	1,030 45		
M. C. Beedle	9 80		
J. E. Dennison	330 88		
Joy & Hall	126 85		
E. J. Packard	142 00		
John Quinn	8 47		
		1,824 70	
Amounts carried forward . . .		$16,488 23	$40,947 37

Amounts brought forward . . .		$16,488 23	$40,947 37
Clocks and repairs:—			
A. J. Applegate	$52 25		
Sundry persons	22 50		
		74 75	
Disinfectants,			
C. W. Lerned & Co. . . .		57 50	
Drain work, Samuel McCulloch		105 00	
Dusters, brushes, etc.:—			
Chas. A. Austin & Co. . . .	294 65		
A. Worcester & Sons . . .	39 98		
Jordan & Christie	46 00		
Sundry persons	15 00		
		395 63	
Flag staff, etc., David Cass . .		22 90	
Fuel:—			
Coleman Bros.	$177 38		
J. M. McCarthy's Sons . . .	180 60		
H. Wellington & Co. . . .	52 40		
L. G. Burnham & Co. . . .	935 77		
H. G. Jordan & Co.	9,419 51		
P. F. Gayton & Co.	166 08		
C. W. H. Moulton & Co. . .	10 00		
Weighing coal, H. W. Brooks	95 77		
		11,037 51	
Furniture and furnishings:—			
L. D. Kalberg & Co. . . .	45 00		
John H. Kelsey	100 10		
Phillips Bros. & Co. . . .	186 35		
Wm. J. Ryan	13 75		
James Furfey	125 15		
F. P. Snyder	13 00		
A. G. Whitcomb	47 50		
H. N. Hovey, Jr.	17 00		
Sundry persons	31 79		
		579 64	
Gas fittings etc.		29 33	
Hardware, tools etc.:—			
Burditt & Bynner	38 85		
Brock Bros.	99 75		
J. M. Price & Son	106 96		
Whittier Hardware Co. . .	18 45		
F. A. White	48 65		
Sundry persons	38 85		
		351 51	
Amounts carried forward . . .		$29,142 00	$40,947 37

Amounts brought forward . .		$29,142 00	$40,947 37
For Heating and ventilating: —			
Brock Bros.	$53 48		
Wm. F. Chester	2,563 50		
Continental Grate Co. . . .	70 07		
Fuller & Warren Co. . . .	2,650 00		
D. W. Gage	16 45		
S. C. Higgins	725 78		
C. K. Hooker	11 70		
Edward Kendall & Sons . .	21 50		
Moynahan & Co.	75 22		
J. M. Price & Son	533 25		
D. J. Wild & Co.	140 20		
Sundry persons	11 00		
		6,873 15	
Iron Gates,			
Chelmsford Foundry Co. . .		100 00	
Lamps, G. F. Dickson . . .		8 82	
Lighting: —			
Cambridge Electric Lt. Co. .	910 17		
Cambridge Gas Lt. Co. . .	493 64		
		1,403 81	
Mason work:—			
Joseph J. Pickett	$40 00		
A. Chapin	8 22		
A. P. Greenleaf	14 35		
Wm. Gallagher	92 00		
Thomas Harrison	15 32		
		169 89	
Moving furniture		78 95	
Painting, glazing, whitening, etc.:—			
J. L. P. Ackers	699 25		
W. R. Alden	23 00		
W. J. Heron	135 00		
W. B. Holt	66 47		
George A. McConnell . . .	10 20		
George W. Stacy	38 01		
J. H. & J. P. Thayer & Co. .	328 49		
E. Tripp & Co.	79 11		
F. H. Tufts	29 24		
Sundry persons	29 55		
		1,438 32	
Amounts carried forward . . .		$39,214 94	$40,947 37

Amounts brought forward . .		$39,214 94	$40,947 37
For Plumbing:—			
Brock Bros.	$19 25		
M. F. Davlin & Co.	82 63		
George V. Eldridge	8 80		
Levi Hawkes & Co.	29 39		
S. C. Higgins	172 03		
Sundry persons	6 17		
		318 27	
Removing night soil,			
R. M. Johnson		252 00	
Repairing roofs:—			
John J. Blevins	313 41		
M. F. Marks	111 60		
David Young	43 23		
		468 24	
Sanitary work on Stearns School house, Brock Bros.		411 00	
Sundry repairs:—			
F. M. Buffum	23 50		
A. W. Nelson	11 50		
Thomas F. McCue	65 75		
William H. White	138 15		
Sundry persons	11 63		
		250 53	
Sundry supplies		13 63	
Total expenditures			40,928 61
Balance unexpended . . .			$18 76

Public Property (School Houses, New and Furniture, New High School House).

Appropriation			$121,000 30

EXPENDED.

For salary of Clerk of Works,			
Charles H. Stewart . . . : .		$1,560 00	
Ash barrels, Moore & Ricker .		33 00	
Blackboards, Geo. S. Perry . .		1,366 97	
Carpentry, W. H. Norris . . .		76 28	
Clock, E. Howard Clock Co. .		61 82	
Contracts : —			
J. E. Giddings & Son . . .	$42,376 42		
Chamberlin & Austin . . .	2,275 58		
Ingalls & Kendricken . . .	12,750 00		
		57,402 00	
Amounts carried forward . . .		$60,500 07	$121,000 30

Amounts brought forward . .		$60,500 07	$121,000 30
For Filling and grading: —			
John Galvin	3,769 84		
Michael O'Sullivan	75 12		
Street Department	100 50		
Jeremiah Sullivan	246 39		
		4,191 85	
Ladders, C.W.H.Moulton & Co.		68 00	
Plans and specifications,			
C. H. McClare		50 00	
Tubes, wires, etc.,			
Boston Electric Co.		134 50	
Sundry supplies		12 22	
Total expenditures			64,956 64
Balance unexpended . . .			$56,043 66

Public Property (School Houses, New and Furniture, Morse School).

Appropriation	$52,000 00
Transferred from School Houses,	
Care and Repairs	1,200 00
	$53,200 00

EXPENDED.

For Architect's services,			
George Fogerty		$880 85	
Ash barrels, Dover Stamping Co.		55 00	
Blackboards, J. A. Swasey . .		250 00	
Building contract, Donahoe Bros.		43,909 00	
Carpeting,			
Joel Goldthwaite & Co. . .		41 31	
Carpentry, W. H. Norris . . .		69 04	
Clocks, A. J. Applegate . . .		72 00	
Connecting meter,			
Cambridge Gas Light Co. .		23 87	
Flag staff, David Cass		13 50	
Furniture:—			
Globe Furniture Co. . . .	$1,748 10		
Heywood Bros. & Co. . . .	10 00		
Phillips Bros. & Co. . . .	444 50		
A. G. Whitcomb	298 28		
		2,500 88	
Gas fixtures, N. W. Turner Co.		14 75	
Heating and ventilating,			
Smead W. & V. Co. . . .		4,800 00	
Amounts carried forward . .		$52,630 20	$53,200 00

Amounts brought forward . . .		$52,630 20	$53,200 00
For Hose and mats,			
Boston Woven Hose and Rubber Co.		82 95	
Inspection of plumbing,			
W. A. Wilkins		90 00	
Shades, F. P. Snyder		336 76	
Sundries		48 72	
Total expenditures			53,188 63
Balance unexpended . .			$11 37

School Department (Incidental Expenses).

Appropriation			$700 00
For Salaries of			
Secretary of School Committee, S. B. Hubbard . . .	$300 00		
Page, A. W. Chamberlain .	25 00		
		$325 00	
Advertising		37 63	
Car tickets, W.E.St. Railway Co.		95 00	
Clerical services, S. S. Jacobs		12 60	
Engrossing resolutions,			
H. C. Kendall		5 00	
Expenses, Francis Cogswell . .		24 05	
Printing:—			
James Cox	35 50		
John Ford & Son	7 25		
Harvard Printing Co. . . .	151 85		
		194 60	
Statistics, S. B. Hubbard . . .		6 00	
Total expenditures			$699 88
Balance unexpended . . .			12

School Department, Salaries.

Appropriation			$196,000 00
Transferred from			
Incidental Expenses . . .		$5,000 00	
Revenue appropriated		427 33	
			5,427 33
Amount carried forward . .			$201,427 33

Amount brought forward . .			$201,427 33

RECEIVED.

For Tuition of non-residents . .	$663 00		
From Income of Hopkin's Fund	764 33		
		$1,427 33	

EXPENDED.

For Salaries of			
Superintendent, Francis Cogswell		$3,000 00	
Agent, S. B. Hubbard		1,560 00	
Clerk, Allie B. Frost		409 17	
Special Instructors:—			
Music,			
Nathan Lincoln	$170 00		
Frederick E. Chapman . .	1,350 00		
		1,520 00	
Drawing, Walter F. Brackett		1,700 00	
Sewing,			
Alice H. Nay	$33 00		
Agnes Gordon	600 00		
Georgie Jones	600 00		
		1,233 00	
Teachers in			
Latin School	13,217 50		
English High School . . .	18,517 50		
Grammar Schools	82,214 50		
Primary Schools	58,846 65		
Training School	6,243 88		
Kindergarten Schools . . .	5,777 00		
Evening Schools	3,909 75		
		188,726 28	
Truant Officers		2,700 00	
Total expenditure			200,848 45
Balance unexpended . . .			$578 88

School Department, Text Books and Supplies.

Appropriation	$14,000 00
Revenue appropriated	72 76
	$14,072 76
Transferred to Incidental Expenses	1,500 00
Amount carried forward . . .	$12,572 76

Amount brought forward . . .		$12,572 76

RECEIVED.

For Damage and sale of books . .	$322 76	

EXPENDED.

For Apparatus and supplies : —		
Boston Bank Note and Lith. Co.	$85 85	
Bradford, Thomos & Co. . . .	31 50	
Brown, Durrell & Co.	15 40	
Burditt & Williams	40 44	
Cambridge Manual Training School	18 00	
Ceiley & Wright	51 02	
Codman & Shurtleff	47 95	
Davidson Rubber Co.	61 40	
Dennison M'f'g Co.	3 65	
Eagle Pencil Co.	361 63	
Edison General Electric Co. . .	18 37	
Educational Supply Co. . . .	1 50	
Frost & Adams	213 54	
Geo. W. Gale Lumber Co. . .	6 28	
Paul A. Garey & Co.	4 00	
Thomas Groom & Co.	4 25	
Thomas Hall	25 00	
J. L. Hammett	215 47	
Hayden & Chester	105 00	
D. C. Heath & Co.	16 44	
N. L. Hickok	31 74	
Hopkinson & Marden	14 00	
D. W. Hyde & Co.	6 65	
W. H. Norris	13 98	
Geo. S. Perry	674 79	
D. E. Poland & Co.	16 56	
Prang Educational Co. . . .	790 84	
D. C. Pratt	114 51	
Pulsifer, Jordan & Co. . . .	1,855 67	
Geo. H. Richter & Co. . . .	16 00	
Albert L. Russell	6 30	
Chas. W. Sever	24 00	
J. K. C. Sleeper & Co. . . .	36 19	
J. A. Swasey	20 28	
S. Thaxter & Son	9 00	
Thorp & Adams Mfg. Co. . .	11 20	
Amounts carried forward . . .	$4,968 40	$12,572 76

Amounts brought forward	$4,968 40		$12,572 76
For Apparatus and supplies :—			
James W. Vinal & Co. . .	2 80		
M. R. Warren	13 40		
Weeks & Potter	12 05		
T. B. Wentworth	28 00		
Whitall, Tatum & Co. . . .	2 52		
A. G. Whitcomb	28 80		
Winkley, Dresser & Co. . .	180 64		
Ziegler Bros.	17 20		
		5,253 81	
Assisting Director of Drawing, Ella C. Whitney		34 37	
Books :—			
Allyn & Bacon	27 50		
American Book Co.	1,548 50		
Edw. E. Babb & Co. . . .	17 03		
Boston School Supply Co. . .	125 25		
Henry G. Garey	14 00		
W. B. Clarke & Co.	8 50		
DeWolf, Fiske & Co. . . .	11 17		
Effingham, Maynard & Co. .	6 00		
Eldridge & Bro.	19 79		
Ginn & Co.	1,268 18		
Thomas Groom	10 75		
J. L. Hammett	257 18		
D. C. Heath & Co.	260 28		
Houghton, Mifflin & Co. . .	402 38		
Interstate Publishing Co. . .	25 52		
Jordan, Marsh & Co. . . .	40 00		
G. F. King & Merrill . . .	148 75		
Leach, Shewell & Sanborn .	22 24		
Lee & Shepard	271 97		
Little, Brown & Co. . . .	5 00		
J. B. Lippincott & Co. . . .	17 80		
Mass. Bible Society	5 50		
N. E. Publishing Co.	15 00		
George S. Perry	75 00		
Prang Educational Co. . . .	16 00		
B. B. Russell	5 57		
Carl Schoenhof	267 99		
Silver, Burditt & Co. . . .	24 68		
Willard Small	44 78		
Thompson, Brown & Co. . .	345 91		
University Pub. Co. . . .	190 49		
Amounts carried forward . . .	$5,498 71	$5,288 18	$12,572 76

Amounts brought forward . . .	$5,498 71	$5,288 18	$12,572 76
For Books:—			
William Ware & Co. . . .	710 40		
A. H. H. Warren & Co. . .	218 49		
	———	6,427 60	
Car tickets, W.E. St. Railway Co.		10 00	
Cash for sundries:—			
Frank A. Hill	23 00		
S. B. Hubbard	41 91		
C. W. Parmenter	6 22		
Emma A. Scudder	7 08		
Delia Stickney	10 04		
Charles F. Warren	41 46		
	———	129 71	
Expressage:—			
Bancroft's Express	3 50		
P. Biggin	26 64		
H. W. Bettinson & Co. . .	15 45		
Callahan's Express	3 45		
J. R. & C. S. Hersum . . .	28 13		
Savage & Son	5 55		
Sawin's Express	21 00		
William Seymour	113 07		
	———	216 79	
Printing:—			
James H. Cox	26 50		
John Ford & Son	18 87		
Harvard Printing Co. . . .	86 75		
G. B. Lenfest	169 25		
	———	301 37	
Tuning pianos, L. M. Eldridge .		12 50	
		———	
Total expenditure			12,386 15
			———
Balance unexpended . .			$186 61

Sealer of Weights and Measures.

Appropriation	$1,900 00
Revenue appropriated	67 79
	———
	$1,967 79

RECEIVED.

For Fees for sealing	$467 79	
	———	———
Amounts carried forward . . .	$467 79	$1,967 79

Amounts brought forward . . .		$467 79	$1,967 79

EXPENDED.

For Salaries of			
Sealer, B. Otis Danforth . . .	$350 00		
Assistants, C. D. Kinnear . .	370 00		
H. C. Whiteley	140 25		
Wm. Foster	9 60		
J. A. Bartlett . , ...	8 00		
E. F. Jones	1 50		
		879 35	
Advertising, James Cox . . .		4 08	
Car tickets,			
W. E. Street Railway Co. . .		5 00	
Directory,			
W. A. Greenough & Co. . .		2 50	
Expressage, Savage & Son. . .		40	
Gas, Cambridge Gas Light Co.		2 56	
Horse board, Street Dept. . .		180 00	
Horse hire:—			
Lake & Moynahan	19 00		
G. Davoren	1 00		
M. J. Fairbanks	2 00		
		22 00	
Horse shoeing, Wm. Balmer .		12 73	
Stationery,			
S. J. Parkhill & Co. . . .		20 00	
Supplies, hardware, tools, etc:—			
Brock Bros.	1 40		
Burditt & Bynner . . .	22 47		
A. D. Carleton	6 30		
Cox & Compton	5 45		
Fairbanks, Brown & Co. . .	86 00		
A. B. Prince	3 10		
S. P. Sharples	40 00		
		164 72	
Wagon, harness and repairs:—			
James Forgie & Son . . .	69 35		
E. Teel & Co.	193 00		
Chas. Waugh & Co.	4 75		
		267 10	
Total expenditures			1,560 44
Balance unexpended . .			$407 35

Sewers, Construction.

Appropriation			$25,000 00
Revenue appropriated			213 04
			25,213 04
Transferred to			
Sewers, Maintenance			5,000 00
			20,213 04

RECEIVED.

From sundry persons for Assessments		$10,213 04	

EXPENDED.

For Labor, as per pay rolls . . .		10,765 71	
Brick, Wm. C. Norcross . . .		811 91	
Castings,			
Barbour, Stockwell & Co. . .		985 24	
Gravel and sand :—			
John Galvin	$23 00		
John F. O'Brien	14 00		
Thomas O'Hara	14 00		
		51 00	
Lumber, E. D. Sawyer & Co. .		276 10	
Oat meal, Chas. James . . .		8 15	
Pipe and cement:—			
D. W. Lewis	1,766 18		
Portland Stone Ware Co. . .	2,194 33		
Geo. M. Winslow & Co. . .	378 00		
		4,338 51	
Repairing tools:—			
Chas. H. Goldsmith	17 25		
Wight & Scorgie	88 00		
		105 25	
Stone:—			
John J. Cuddihy	84 00		
Austin Ford	155 00		
S. & R. J. Lombard	89 80		
		328 80	
Teaming :—			
P. Biggin	139 82		
J. F. Coolidge	130 94		
Thomas O'Hara	475 50		
Chas. W. Sullivan	3 56		
		749 82	
Total expenditures			18,420 49
Balance unexpended . .			$1,792 55

Sewers, Maintenance.

Appropriation			$30,000 00
Transferred from Sewers, Construction . . .			5,000 00
			$35,000 00

RECEIVED.

From City of Somerville for a portion of the expense of cleaning the outlet to the Bridge Street Sewer		$1,234 77	
Labor and materials		125 90	
Rent of house in Sewer Department yard		76 50	
Rebate on bill		3 00	
		1,440 17	

EXPENDED.

For Salaries of Superintendent, Theodore L. Pike	$1,699 97		
Clerk, Mary E. Rowen . . .	225 00		
Laborers	17,113 18		
		19,038 15	
Bricks, Wm. C. Norcross . .		851 94	
Building contract with W. E. Rose		1,190 00	
Carpentry:—			
J. H. Keenan	265 87		
H. A. Scranton	26 68		
		292 55	
Carriage repairs, F. Ivers & Son		185 00	
Car tickets, W. E. St. Railway Co.		55 00	
Carriage hire for Committee .		26 00	
Castings, Barbour, Stockwell & Co. . .		316 50	
Cleaning catch-basins, John Horrigan		1,828 75	
Dredging outlet to Bridge Street Sewer, Eastern Dredging Co.		1,902 70	
Fuel, L. G. Burnham & Co. .	26 57		
H. G. Jordan & Co.	279 92		
H. Wellington & Co. . . .	39 05		
Weighing coal	48		
		346 02	
Amounts carried forward . .		$26,032 61	$35,000 00

Amounts brought forward . .		$26,032 61	$35,000 00
For Gas, Cambridge Gas Light Co. .		11 20	
Hardware, tools and repairs:—			
Brock Bros.	64 42		
Burditt & Bynner	304 20		
Wm. Campbell & Co. . . .	48 95		
Charles H. Goldsmith . . .	54 93		
Greene & Co.	32 38		
James Maitland	162 23		
F. A. White	39 35		
Whittier Hardware Co. . .	40 65		
Wight & Scorgie	22 58		
Charles Waugh & Co. . . .	47 00		
		816 69	
Harness and repairs,			
John Hancock		105 12	
Hay, grain and straw,			
E. R. Luke & Co.		390 33	
Hose, couplings, etc.			
Boston Woven Hose Co. . .		84 47	
Horse, William H. Woodbury .		225 00	
Horse clipping, John Smith . .		6 00	
Horse medicines		7 60	
Horse-shoeing, John F. Gurry .		76 76	
Iron work, Miller & Shaw . .		315 10	
Loam, Barbour, Stockwell & Co.		16 00	
Lumber, E. D. Sawyer & Co. .		1,672 27	
Oatmeal:—			
C. D. Cobb & Co	2 00		
Charles James	8 15		
		10 15	
Oil, Maverick Oil Co.		33 40	
Oil clothing, H. M. Sawyer & Co.		27 00	
Painting and paper hanging:—			
W. J. Edwards	78 44		
E. Tripp & Co.	35 00		
		113 44	
Paving, H. Gore & Co. . . .		303 19	
Piles, John T. Scully		391 84	
Pipe, cement, etc.:—			
Cambridge Water Works . .	8 25		
D. W. Lewis.	853 54		
Portland Stone Ware Co. . .	260 08		
Geo. M. Winslow & Co. . .	287 25		
		1,409 12	
Raising building, H. S. Angus .		24 00	
Amounts carried forward		$32,071 29	$35,000 00

Amounts brought forward . .		$32,071 29	$35,000 00
For Rope and cordage :—			
Nolan Bros.	79 06		
M. F. Whiton & Co. . . .	26 06		
		105 12	
Rubber goods,			
Conant Rubber Co.		153 88	
Sand, gravel and stone:—			
Cambridge Stone Co. . . .	4 43		
Austin Ford	14 00		
John Galvin	60 50		
J. F. O'Brien	19 00		
		97 93	
Stationery and printing:—			
Cotton & Gould	21 97		
James H. Cox	16 00		
J. F. Facey	2 00		
		39 97	
Sundry supplies		19 41	
Sundry repairs		22 35	
Teaming:—			
P. Biggin	43 49		
J. F. Coolidge	10 87		
John Galvin	43 50		
Thomas O'Hara	553 75		
B. G. Stockton	1 50		
C. W. Sullivan	1 50		
		654 61	
Use of engine and pump,			
E. R. Cheney	456 50		
John T. Scully	82 00		
		538 50	
Use of land on Alewife Brook,			
Irving L. Russell		628 00	
Wagon, Chas. Waugh & Co. .		130 00	
Water supply,			
Cambridge Water Works . .		12 13	
Total expenditures			34,473 19
Balance unexpended . . .			$526 81

Sinking Funds.

Appropriation			$75,170 00
EXPENDED.			
For Salaries of			
Treasurer, Wm. W. Dallinger .	$300 00		
Clerk, John McDuffie . . .	25 00		
		$325 00	
Amount due Commissioners for 1891		74,805 00	
Rent of box, Boston Safe Deposit and Trust Co.		40 00	
Total expenditures			$75,170 00

State Aid.

Appropriation			$22,000 00
Transferred from			
Incidental Expenses	$800 00		
Surplus revenue	425 81		
			1,225 81
			$23,225 81
RECEIVED.			
From the Commonwealth of Mass. in reimbursement, in part of the amount the City has advanced in conformity to the laws of the State, to volunteers and their families or other dependents of volunteers in the army and navy		$12,298 50	
The town of Medfield		36 00	
Money not called for on pay rolls		91 31	
		$12,425 81	
EXPENDED.			
For State Aid as per pay rolls . .	$10,905 00		
Military Aid as per pay rolls .	4,531 00		
Soldiers and sailors as per pay rolls	4,281 00		
		19,717 00	
Aid by cities and towns . . .		596 56	
Ambulance fee, C. W. Dailey .		7 00	
Amounts carried forward . .		$20,320 56	$23,225 81

Amounts brought forward . .		$20,320 56	$23,225 81
For Board and care:—			
Cambridge Almshouse . . .	$503 20		
Cambridge Hospital	25 00		
State Farm	36 80		
Taunton Lunatic Hospital . .	62 07		
Worcester Lunatic Hospital .	187 88		
Catherine Kelly	12 00		
		826 95	
Burials:—			
John W. Coveney	35 00		
Jos. J. Kelley	210 00		
H. D. Litchfield	175 00		
C. H. Lockhart	70 00		
Jas. F. Mullen	70 00		
Wm. Ross & Son	35 00		
Jas. J. Shea	35 00		
W. A. Taylor	70 00		
		700 00	
Fuel		13 55	
Medicine		1 50	
Tobacco		5 20	
Committee expenses:—			
Carriage hire	6 00		
Car tickets	10 00		
Salary of clerk, Chas. L. Russell	720 00		
Stationery and printing . .	89 29		
		825 29	
Total expenditures . .			22,693 05
Balance unexpended			$532 76

Stationery and Printing.

Appropriation	$2,500 00
Transferred from Incidental Expenses	500 00
	$3,000 00

RECEIVED.

For supplies furnished departments	$576 62	

EXPENDED.

For Advertising:—			
Cambridge Chronicle . . .	$10 50		
James Cox	140 98		
F. Stanhope Hill	10 50		
		161 98	
Amounts carried forward . .		$161 98	$3,000 00

Amounts brought forward . . .		$161 98	$3,000 00
For Binding "City Documents," J. H. H. McNamee		60 00	
Examination of bill of Harvard Printing Co. for "City Documents," Charles Walker . .		15 00	
Printing:—			
Cashman & Keating . . .	$623 20		
James H. Cox	141 93		
J. Frank Facey	34 50		
John Ford & Son	67 50		
Harvard Printing Co. . . .	1,131 67		
John Wilson & Son	65 50		
		2,064 30	
Supplies:—			
Cotton & Gould	264 48		
Frost & Adams	1 15		
S. G. Harding	2 37		
E. W. S. Jones	10 50		
Winkley, Dresser & Co. . .	418 92		
		697 42	
Total expenditures			2,998 70
Balance unexpended . . .			$1 30

Street Department (Bridge: Rebuilding, Widening and Maintenance).

Appropriation	$19,000 00
Additional Appropriation . . .	5,000 00
	$24 000 00

EXPENDED.

For salaries of drawtenders:—			
Wm. Burgess.	$600 96		
Martin Flaherty	931 81		
Nathaniel M. Neale . . .	600 96		
Inspector, W. L. Kimball . .	520 00		
		$2,676 73	
Advertising contracts		17 88	
Contracts with			
John Cavanagh & Co., for North Harvard Bridge . .	4,100 00		
Alex. McInnis, River Street Bridge	5,720 73		
John T. Scully, Brookline Bridge	737 01		
Amounts carried forward . . .	$10,557 74	$2,694 61	$24,000 00

Amounts brought forward . .	$10,557 74	$2,694 61	$24,000 00
W. A. Kenrick & Son, Brookline Bridge	3,500 00		
Wm. Miller, Western Avenue Bridge	3,714 00		
Wm. Miller, Walden Street Bridge	245 00		
Dailey & Crockett, Alewife Brook culvert	2,647 05		
		20,663 79	
Fuel:—			
H. Wellington & Co. . . .	5 50		
H. G. Jordan & Co.	5 25		
		10 75	
Hardware:—			
F. A. White	11 19		
Whittier Hardware Co. . .	2 75		
		13 94	
Hoisting gears, Wm. Miller . .		82 80	
Iron work, Miller & Shaw . .		2 58	
Lumber and cement:—			
Geo. W. Gale Lumber Co. .	35 81		
N. N. Stickney	41 53		
W. H. Wood & Co.	113 39		
		190 73	
Printing, Harvard Printing Co.		38 00	
Securing and shifting buoy, Frank W. Webster & Co. .		75 00	
Stone, F. W. Mead	129 95		
Overseers of the Poor . . .	11 31		
		141 26	
Sundries		9 18	
Total expenditures			23,922 64
Balance unexpended . .			$77 36

Street Department, Construction and Maintenance of Sundry Streets (Belmont District).

Appropriation	$10,000 00
Additional appropriation	2,400 00
	$12,400 00

EXPENDED.

For labor, as per pay rolls . . .	$3,434 00	
Catch basin; Sewer Dept. . .	34 90	
Fuel, H. G. Jordan & Co. . .	101 60	
Amounts carried forward . . .	$3,570 50	$12,400 00

Amounts brought forward . .		$3,570 50	$12,400 00
For Lumber, N. N. Stickney . .		36 46	
Stone, F. W. Mead		5,627 23	
Tools, Ames Plow Co.		62 06	
Teaming:—			
James Boyle	$121 25		
C. S. Brainard	286 25		
John J. Brassil	195 00		
James Burns	80 00		
T. A. Callaghan	320 00		
D. J. Cosgrove	96 25		
John Coughlin	126 25		
J. T. Culhane	2 50		
P. J. Curley	125 00		
P. H. Dardis	60 00		
John A. Egan	126 25		
Jos. Finnick	276 25		
John Gallivan	166 25		
James Gray	131 25		
W. E. Hutchins, Gd. . . .	123 75		
Edward Lynch	181 25		
Jere. McCrehan	93 75		
Pat. McNamara	46 25		
Timothy Murphy	53 75		
Thos. H. O'Hara	53 75		
John Quinn	56 25		
John M. Riley	166 25		
R. T. Ross	2 50		
Jeremiah Sullivan	201 25		
Jos. F. White	12 50		
		3,103 75	
Total expenditures			$12,400 00

Street Department, Extension and Widenings (Main Street).

Appropriation	$2,990 00

EXPENDED.

For Land on the corner of Main and Inman Streets, Cambridge Mutual Fire Insurance Co. .	2,990 00

Street Department, Extension and Widenings (Winsor Street).

Appropriation	$2,400 00

EXPENDED.

For Land and damage, Isaac S. Pear	2,400 00

Street Department (Filling and Grading Front Street).

Appropriation			$60,000 00
EXPENDED.			
For Labor, as per pay rolls . . .		$14,225 90	
Bricks, William C. Norcross .		425 02	
Carpentry, J. H. Keenan . .		49 67	
Carriage hire for committee . .		8 50	
Fence, C. L. Weldon		1,491 84	
Fuel:—			
L. G. Burnham & Co. . . .	$25 85		
H. G. Jordan & Co.	98 60		
	———	124 45	
Hardware, tools, etc.:—			
Ames Plow Co.	46 00		
Barbour, Stockwell & Co. . .	150 83		
Burditt & Bynner	5 30		
P. J. Dinn	15 67		
Wm. H. Gallison	38 60		
Chas. H. Goldsmith	15 97		
Miller & Shaw	126 87		
	———	399 24	
Loam and sand:—			
Barbour, Stockwell & Co. . .	668 25		
Thomas O'Hara	3 00		
John Gallivan	12 00		
	———	683 25	
Lumber:—			
E. D. Sawyer & Co.	872 02		
Geo. W. Gale Lumber Co. .	10 50		
	———	882 52	
Paving, W. E. St. Railway Co. .		217 24	
Piles, John T. Scully		508 62	
Pipe and cement:—			
Portland Stone Ware Co. . .	399 83		
D. W. Lewis	598 94		
George M. Winslow & Co. .	33 75		
	———	1,032 52	
Printing, James H. Cox . . .		1 00	
Stone (ballast and cracked):—			
F. W. Mead		20,991 77	
Edgestone, Jere. McCarthy .		1,592 49	
Flagging, John J. Cuddihy .		161 00	
Amounts carried forward . . .		$42,795 03	$60,000 00

Amounts brought forward . .		$42,795 03	$60,000 00
For Stone, field: —			
James Boyle	$10 48		
Christopher Burke	15 96		
Peter Burns	26 79		
Frank Cofran	29 01		
Fred Cofran	30 85		
Jane Cosgrove	53 65		
T. C. Cosgrove	23 89		
P. J. Curley	63 22		
Edw. Fitzgerald	21 68		
John Gallivan	51 43		
S. Gustafson	71 37		
Wm. Hart	40 69		
David Irwin	40 68		
John Irwin	24 65		
Patrick Lannon	83 28		
Charles Linehan	15 25		
Thos. H. O'Hara	132 91		
Sundry persons	37 39		
		773 18	
Stone, round,			
W. E. Street Railway Co. . .		158 70	
Stone dust, F. W. Mead . . .		101 06	
Teaming: —			
Eliz. Cox	53 75		
Wm. Condon	53 75		
Tim. Murphy	127 50		
T. A. Callahan	115 00		
Jos. Finnick	25 00		
John Gallivan	25 00		
Tim. C. Cosgrove	178 75		
Frank J. Coulter	485 00		
John Culhane	265 00		
Patk. J. Curley	218 75		
James Gray	395 00		
Wm. Hart	1,028 50		
Henry Hermans	201 25		
W. E. Hutchins	318 75		
Michael F. Lamb	25 00		
Chas. Linehan	386 75		
Edw. Lynch	468 75		
Jere. McCrehan	250 00		
Chas. McMahon	361 25		
Patrick McNamara	390 00		
Thomas McSorley	377 50		
Amounts carried forward . . .	$5,750 25	$43,827 97	$60,000 00

Amounts brought forward . . .	$5,750 25	$43,827 97	$60,000 00
Thos. H. O'Hara	312 75		
John Quinn, Jr., ...	220 00		
John M. Riley	65 00		
B. F. St. George	87 50		
Jere. Sullivan	125 00		
Peter Tumilty	2 50		
Jos. F. White	2 50		
Thomas O'Hara	177 50		
P. Biggin	3 38		
John Coughlin	142 50		
John A. Egan	142 50		
		7,031 38	
Total amount expended . . .			50,859 35
Balance unexpended . .			$9,140 60

Street Department, Maintenance (including the Collection of Ashes).

Appropriation		$110,000 00
Revenue appropriated	$173 65	
Transferred from		
Incidental Expenses	1,200 00	1,373 65
		$111,373 65

RECEIVED.

For Ashes, filling and scrapings .	$1,808 50	
Board and care of horse of Sealer of Weights and Measures	25 00	
Carriage hire (use of horse and wagon)	15 00	
Castings from River Street Bridge	9 00	
Chopping blocks	12 00	
Counting paving blocks . . .	129 60	
Express wagon, Cambridge Gas Light Co, . .	75 00	
Horse	50 00	
Manure	10 00	
Rebate on bill	33 70	
Receipts for impounded animals	12 50	
Removing lumber	11 85	
Amounts carried forward . .	$2,192 15	$111,373 65

Amounts brought forward . .	$2,192 15		$111,373 65
For Stone	31 50		
Stone dust	62 00		
Use of steam roller	388 00		
Total amount received	2,673 65		

EXPENDED.

For Salaries of			
Supt., E. H. Reed	$1,700 00		
Foreman, C. A. Brown . . .	1,107 75		
Foreman, J. A. Sheridan . .	1,104 25		
Sub-Foreman, H. C. Hitchcock	755 62		
Sub-Foreman, Eldorado Osborn	420 00		
Clerk, G. M. Clukas	936 00		
Labor as per pay rolls:—			
Regular . . . $39,154 51			
Transient . . . 21,881 04			
	61,035 55		
		67,059 17	
Labor Sewer Dept.		21 15	
Teaming other than done by the department:—			
John M. Riley	182 50		
John Quinn, Jr.	177 50		
C. S. Brainard	622 50		
Peter Burns	15 00		
James Boyle	251 25		
John Galvin	926 25		
M. F. Lamb	47 50		
M. J. Shea	25 00		
John J. Brassill	615 00		
Jas. H. Burns	432 50		
T. A. Callahan	622 50		
John A. Egan	670 00		
Chas. McMahon	686 83		
John Quinn	697 50		
Wm. Condon	702 50		
P. H. Dardis	533 75		
Thos. H. O'Hara	570 00		
John Coughlin	458 75		
Thos. McSorley	402 50		
Eliz. Cox	477 50		
B. F. St. George	428 75		
Jos. Finnick	325 00		
Henry Hermanns	370 00		
Amounts carried forward . . .	$10,240 58	$67,080 32	$111,373 65

Amounts brought forward . . .	$10,240 58	$67,080 32	$111,373 65
Jere. McCrehan	308 75		
Timy. Murphy	360 00		
Jere. Sullivan	342 50		
James Gray	220 00		
Robt. T. Ross	211 25		
Chas. Linehan	282 00		
Edw. Lynch	216 25		
Wm. E. Hutchins	191 25		
Wm. Hart	151 50		
Patrick McNamara	186 25		
John F. Culhane	80 00		
D. J. Cosgrove	47 50		
Micheal O'Sullivan	171 25		
Jos. F. White	31 25		
	———	13,040 33	
Blankets and robe: —			
North, Fiske & Co.	15 00		
Dyer, Rice & Co.	92 00		
	———	107 00	
Bricks, M. W. Sands		35 50	
Carpentry, Ira G. Hersey . .		31 06	
Carriage hire for Committee: —			
Irving Blake	5 63		
J. E. Fabyan	63 00		
M. J. Fairbanks	14 00		
J. O. Whitten	3 00		
Lake & Moynahan	23 00		
J. Callahan	29 50		
Charles W. Daily	24 00		
	———	162 13	
Carriages, sleighs and repairs:—			
F. L. Chapman	15 00		
F. Ivers & Son	128 00		
A. M. Wood	116 18		
E. Tucker	1 50		
Chas. Waugh & Co. . . .	243 15		
	———	503 83	
Car tickets,			
W. E. Street Railway Co. . .		25 00	
Cash for sundries, E. H. Reed .		23 16	
Directories:—			
W. A. Greenough & Co. . .	7 50		
Sampson, Murdock & Co. . .	5 00		
	———	12 50	
Amounts carried forward . .		$81,020 83	$111,373 65

Amounts brought forward . .		$81,020 83	$111,373 65
For Doors and windows, glass:—			
Levi Boles & Son	37 60		
Slattery & D'Arcy	6 35		
Lambert Bros. (glass) . . .	2 70		
		46 65	
Fuel:—			
H. Wellington & Co. . . .	168 92		
L. G. Burnham & Co. . . .	109 19		
Coleman Bros.	64 00		
Hunnewell & Proudfoot . .	100 00		
H. G. Jordan & Co.	137 28		
		579 39	
Furniture:—			
Keeler & Co.	11 25		
Phillips Bros. & Co.	19 50		
		30 75	
Gas:—			
Cambridge Gas Light Co. . .		214 08	
Gravel, Gore & Young . . .		68 30	
Hardware, tools and repairs:—			
Burditt & White	25 30		
Whittier Hardware Co. . .	61 56		
Brock Bros.	8 95		
G. W. Burditt	1 08		
Dodge, Haley & Co.	115 87		
F. A. White	100 21		
Burditt & Bynner	17 56		
Bigelow & Dowse	62 90		
Daniel J Sullivan	18 95		
Wight & Scorgie	2 75		
Ames Plow Co.	495 53		
Walworth Mfg. Co.	7 20		
Wm. H. Gallison	26 90		
Moynahan & Co.	6 25		
E. Price	90		
Dodge, Haley & Co. . . .	6 51		
C. L. Bradlee	1 63		
Morss & Whyte	16 00		
Magee Furnace Co.	16 25		
Moynahan & Co.	2 55		
		994 85	
Harness and repairs:—			
L. C. Chase & Co.	117 00		
James Forgie & Son . . .	170 70		
Hugh McCaffrey	439 89		
Amounts carried forward . . .	$727 59	$82,954 85	$111,373 65

Amounts brought forward . .	$727 59	$82,954 85	$111,373 65
John H. Fuller	7 92		
J. F. Nolan	11 05		
American Horse Protector Co.	45 00		
James Martin & Son . . .	79 30		
T. Sullivan	3 00		
	———	873 86	
Hay, grain and straw:—			
Hosmer, Crampton & Hammond	237 12		
H. H. Turner & Co. . . .	1,947 57		
A. F. Whitcomb	3,144 70		
George G. Wright	152 35		
Lord & Webster	493 85		
George H. Cheever	26 30		
	———	6,001 89	
Horses:—			
P. H. Dardis	650 00		
I. R. Simmons	1,000 00		
Welch & Hall	525 00		
J. P. Scroggs	200 00		
	———	2,375 00	
Horse shoes, Wm. Balmer . .		39 58	
Lantern repairing and gas fittings:—			
Moynahan & Co.	48 79		
John P. Adams	75		
	———	49 54	
Lumber, lime and cement:—			
George W. Gale	245 58		
Charles W. Henderson . . .	16 00		
N. N. Stickney	357 87		
Wm. H. Wood & Co. . . .	471 96		
Henry J. Winde	137 37		
Geo. W. Gale Lumber Co. .	89 64		
W. F. Webster Cement Co. .	1 50		
	———	1,319 92	
Machine and engine work and iron work:—			
Edson Manufacturing Co. .	75 98		
Broad Gauge Iron Works . .	1 20		
Wm. H. Gallison	20 90		
Edward Kendall & Sons . .	1,463 63		
P. Barclay & Co.	30 50		
A. J. Wellington	152 05		
William C. Oastler	75 00		
Broadway Iron Foundry . .	11 50		
Amounts carried forward . .	$1,830 76	$93,614 64	$111,373 65

Amounts brought forward . . .	$1,830 76	$93,614 64	$111,373 65
Dodge, Haley & Co. . . .	272 53		
W. A. Snow & Co.	3 00		
Barbour, Stockwell & Co. . .	10 50		
Parker & Field	83 96		
Farrell Foundry and Machine Co.	93 28		
		2,294 03	
Mason work, Bellamy & Harris		429 00	
Moving building, H. S. Angus .		55 00	
Packing, belting and rubber goods :—			
Lubron Manufacturing Co. .	5 70		
Boston Belting Co.	27 19		
Boston Woven Hose Co. . .	104 52		
Gould Packing Co.	16 04		
Walworth Manufacturing Co.	13 35		
American Rubber Co. . . .	5 86		
Stoughton Rubber Co. . . .	2 19		
Frank E. Fitts Manufacturing and Supply Co.	11 17		
		186 02	
Paint, varnish, oil, etc.:—			
Howe & French	129 96		
Wadsworth, Howland & Co. .	99 97		
E. Tucker	112 75		
Butchers' Slaughtering and Melting Asso.	11 50		
Rust & Richardson Drug Co.	1 20		
Maverick Oil Co.	9 71		
Manufacturers' Oil Co. . . .	81 47		
		446 56	
Plumbing:—			
Moulton & Ford		157 46	
Printing, stationery and stamps:			
James H. Cox	94 70		
Cotton & Gould	73 44		
E. W. S. Jones	9 87		
Harvard Printing Co. . . .	8 75		
Stationery Dept.	27 67		
L. W. Poole	2 50		
		216 93	
Refreshments for Committee:—			
M. R. Jones	25 00		
J. R. Whipple & Co. . . .	12 50		
		37 50	
Amounts carried forward . . .		$97,437 14	$111,373 65

Amounts brought forward . .		$97,437 14	$111,373 65
For Rent and tolls,			
N. E. Telephone Co. . . .		58 50	
Rent of part of wharf,			
Cambridge Gas Light Co. . .		275 00	
Road machines, G. W. Tibbetts		502 75	
Setting and repairing fountain and water supply,			
Cambridge Water Works .		107 98	
Stone, (cracked)			
F. W. Mead	$7,578 61		
Stone, (field)			
John Gallivan . . . $356 11			
John A. Egan . . . 289 30			
P. J. Curley . . . 236 85			
Edward Fitzgerald . 229 51			
Thos. H. O'Hara . . 256 05			
Christopher Burke . 195 33			
Peter Burns . . . 124 55			
T. A. Callahan . . 136 08			
David Irwin . . . 117 11			
S. Gustafson . . . 82 25			
Patk. Lannon . . . 65 98			
Jere. Sullivan . . . 48 77			
Edw. Lynch . . . 50 63			
Wm. Hart 51 68			
Michael Collins . . 84 67			
C. S. Brainard . . . 38 38			
Timy. C. Cosgrove . 40 00			
Francis Locke . . . 25 01			
Jere. O'Keefe . . . 20 58			
Timy. O'Keefe . . 27 53			
Jas. A. Wilson . . 21 28			
John Irwin 33 38			
Chas. Linehan . . . 30 16			
Dennis Reardon . . 24 26			
Pat. Riley 3 08			
J. M. Riley 9 36			
B. F. Holt 2 23			
Jane Cosgrove . . . 2 90			
Thomas O'Hara . . 9 27			
Patk. McNamara . . 6 90			
James Boyle . . . 5 36			
	2,624 55		
		10,203 16	
Amounts carried forward . . .		$108,584 53	$111,373 65

Amounts brought forward . .		$108,584 53	$111,373 65
For Stone elevator plant,			
A. J. Wellington		2,232 50	
Street signs and lettering:—			
E. Tucker	$288 25		
Clifford Hunting	2 50		
		290 75	
Sundries:—			
Pipe, D. W. Lewis	10 24		
Picture frame, Cobb & Davis	5 00		
Rep. rubber boots			
C. D. Wilder	1 50		
Roofing, H. F. Peak . . .	17 14		
Sealing scales,			
Sealer of W. & M. . . .	1 24		
Transmitter stands,			
N. E. Tel. & Teleg. Co. .	3 00		
Broom stock, W. C. Duren .	11 70		
Clock, Nelson H. Brown . .	5 00		
Expressage, Savage & Son .	1 00		
Damage, Geo. G. Wright . .	2 25		
		58 07	
Supplies:—			
Frank P. Merrill	2 95		
Jordan, Marsh & Co. (cotton)	5 09		
Warner & Jarvis	1 50		
Rust & Richardson Drug Co.	88 05		
A. C. Curtis & Son	38 92		
D. W. Hyde & Co.	1 25		
Walworth Mfg. Co. (waste) .	11 52		
Frank E. Fitts Mfg. Co.			
(waste)	18 81		
Seth W. Fuller, (electrical			
supplies)	9 65		
Day & Sewall Cordage Co.			
(cordage)	8 56		
Chapman & Soden (felt) . .	14 00		
C. B. Barrett (peat moss) .	5 00		
		205 30	
Total amount expended			$111,371 15
Balance unexpended . . .			$2 50

Street Department, Paving (Cambridge Street).

Appropriation			$18,000 00
EXPENDED.			
For Advertising: —			
Boston Herald Co.	$17 62		
Globe Newspaper Co. . . .	35 25		
		$52 87	
Edgestones, Jere. McCarthy .		570 02	
Labor, as per pay rolls . . .		4,006 84	
Paving blocks, Wilson & Riley		11,761 23	
Sand and gravel, P. O'Riorden .		246 75	
Teaming:—			
James Burns	122 50		
William Condon	127 50		
John A. Egan	138 75		
Joseph Finnick	125 00		
Thomas McSorley	125 00		
Timothy Murphy	122 50		
Thomas H. O'Hara	91 00		
Michael O'Sullivan	105 00		
John Quinn	128 75		
John Quinn, Jr.	111 25		
Robert T. Ross	30 00		
Jere. Sullivan	125 00		
Joseph F. White	1 25		
		1,353 50	
Total expenditures			17,991 21
Balance unexpended . .			$8 79

Street Department, Paving (Edgestones and Sidewalks).

Appropriation			$30,000 00
RECEIVED.			
For Assessments,			
Edgestones and sidewalks . .		$6,595 82	
Labor and materials		2,941 07	
		9,536 89	
EXPENDED.			
For Labor, as per pay rolls . .		16,610 88	
Sewer Department		24 00	
Bricks, M. W. Sands		4,825 14	
Amounts carried forward . .		$21,460 02	$30,000 00

Amounts brought forward . . .		$21,460 02	$30,000 00
For Lumber and cement,			
Wm. H. Wood & Co. . . .		36 32	
Oil, Maverick Oil Co.		94 78	
Printing, James H. Cox . . .		7 75	
Sand and Gravel :—			
Wm. Condon	$62 50		
E. J. Coolidge	10 50		
James M. Hilton	574 50		
Thos. H. O'Hara	16 00		
P. O'Riorden	742 98		
Pinkham & Co.	18 00		
		1,424 48	
Stone:—			
John J. Cuddihy (crossing stone)	1,843 28		
H. E. Fletcher & Co. (edgestone)	87 79		
Jere. McCarthy (edgestone and circle)	4,194 90		
John M. Riley (paving blocks)	15 66		
W. E. St. Railway Co. (round stone)	257 89		
		6,399 52	
Teaming:—			
Elizabeth Cox	125 00		
Henry Hermanns	125 00		
Charles McMahon	10 87		
John M. Riley	98 75		
Robert T. Ross	108 75		
		468 37	
Tools, hardware and supplies:—			
Ames Plow Co.	13 00		
Bigelow & Dowse	54 25		
Dodge, Haley & Co.	5 35		
John W. Harmon	6 50		
Parker & Wood	16 00		
Ross, Turner & Co.	4 00		
F. A. White	4 33		
		103 43	
Total expenditures			29,994 67
Balance unexpended . .			$5 33

Street Department (Shade, Trees and Public Grounds).

Appropriation			$6,000 00
Revenue appropriated			26 13
			6,026 13

RECEIVED.

For removing trees	$126 13	

EXPENDED.

For salary of			
City Forester, James Doherty		900 00	
Labor as per pay rolls		4,086 37	
Hose, Boston Woven Hose Co.		12 30	
Ladders,			
C. W. H. Moulton & Co.		11 50	
Lumber, Geo. W. Gale	145 93		
N. N. Stickney	18 94		
		164 87	
Manure, James Boyle	75 00		
R. T. Ross	97 50		
		172 50	
Paint,			
Wadsworth, Howland & Co		28 38	
Plants, grass seed, etc.: —			
R. & J. Farquhar & Co.	68 40		
P. O'Brien & Son	115 00		
		183 40	
Rope,			
Sewall & Day Cordage Co.		15 95	
Sods, R. T. Ross		258 24	
Teaming, Thomas O'Hara		5 75	
Tools, hardware, etc.: —			
Ames Plow Co.	42 33		
Bigelow & Dowse	2 70		
Brock Bros.	75		
Whittier Hardware Co.	4 45		
		50 23	
Wire netting, Morss & Whyte		31 25	
Total expenditures			5,920 74
Balance unexpended			$105 39

Street Department, Watering.

Appropriation			$18,000 00
Revenue appropriated		977 80	
Transferred from Incidental Expenses		1,500 00	
			2,477 80
			$20,477 80

RECEIVED.

For Sprinkling streets		$13,977 80

EXPENDED.

For Salary of			
Supt. A. F. Miller		$607 50	
Castings,			
Broadway Iron Foundry . .		2 19	
Conductors, valves, etc.,			
Boston Woven Hose Co. . .		26 92	
Harness:—			
James Forgie & Son	$52 60		
R. D. Waterhouse	4 08		
		56 68	
Lumber:—			
Geo. W. Gale	10 92		
Henry J. Winde	204 00		
		214 92	
Paints,			
Wadsworth, Howland & Co. .		226 14	
Painting, E. Tucker		10 75	
Repairing sprinklers,			
F. H. Holton & Co.		19 35	
Repairing stand pipes,			
Cambridge Water Works . .		12 65	
Services of collector,			
P. H. Raymond		25 00	
Stationery, printing, etc.:—			
Cotton & Gould	17 00		
James H. Cox	18 50		
		35 50	
Teaming:—			
James Boyle	524 70		
Peter Burns	523 35		
William Condon	499 50		
John F. Coolidge	954 45		
Amounts carried forward . . .	$2,502 00	$1,237 60	$20,477 80

Amounts brought forward . .	$2,502 00	$1,237 60	$20,477 80
Jane Cosgrove	504 00		
Timothy Cosgrove	399 15		
Elizabeth Cox	508 95		
James Coyle	946 35		
James Culhane	473 40		
Patrick J. Curley	616 95		
P. H. Dardis	527 85		
John Doody	1,019 05		
Henry Hermans	411 30		
M. F. Lamb	1,049 40		
Chas. McMahon	970 65		
John McClellan	504 45		
Thos. McDermott	488 61		
Thos. McSorley	778 95		
Michael O'Sullivan	506 25		
John M. Riley	505 35		
Patrick Riley	482 40		
Philip J. Rowe.	808 20		
Michael J. Shea	504 45		
Jos. A. Stubbs	445 50		
Peter Tumilty	1,048 95		
Jos. F. White	830 70		
		$16,832 86	
Tools, hardware and supplies:—			
Dodge, Haley & Co.	171 09		
Wm. H. Gallison	39 00		
Anthony S. Morse	4 00		
Rust & Richardson Drug Co.	4 88		
Studebaker Bros. M'f'g Co. .	3 27		
F. A. White	3 11		
		225 35	
Watering carts,			
Studebaker Bros. M'f'g Co. .		2,175 00	
Total expenditures			$20,470 81
Balance unexpended . . .			$6 99

Water Works Construction.

Appropriation	$35,000 00
Additional appropriation . . .	30,000 00
Revenue appropriated	616 00
	$65,616 00

RECEIVED.

For premium on bonds	$616 00	
Amount carried forward . . .		$65,616 00

Amount brought forward . . .			$65,616 00

EXPENDED.

For labor as per pay rolls . . .		$14,422 13	
Fittings, gates, valves, etc.:—			
Chapman Valve Mfg. Co. . .	$2,715 18		
Davis & Farnum Mfg. Co. .	894 09		
Fairbanks, Brown & Co. . .	123 75		
The Fairbanks Co.	57 00		
		3,790 02	
Indicator,			
American Steam Gauge Co. .		85 00	
Land, F. A. Kennedy		816 66	
Lumber,			
George W. Gale Lumber Co.		181 17	
Meters:—			
American Frost Meter Co. .	56 25		
Hersey Mfg. Co.	600 00		
Thomson Meter Co.	104 30		
Union Water Meter Co. . .	245 00		
H. R. Worthington	390 61		
		1,396 16	
Packing,			
S. C. Nightingale & Childs .		13 00	
Paving, H. Gore & Co. . . .		72 66	
Pipe:—			
Donaldson Iron Co.	714 59		
Warren Foundry & Machine Co.	7,473 36		
Freight on pipe	306 70		
		8,494 65	
Printing, James H. Cox . . .		1 50	
Printing bonds,			
American Bank Note Co. . .		30 00	
Tapping apparatus,			
Anthony P. Smith		626 00	
Teaming:—			
James Boyle	857 50		
John Brassill	218 75		
Peter Burns	540 00		
Timothy Callahan	810 00		
Wm. Condon	115 00		
Chas. Conlan	538 50		
Patrick Curley	906 25		
P. H. Dardis	862 50		
David Landrigan	536 25		
M. McDonald	526 50		
Amounts carried forward . .	$5,911 25	$29,928 95	$65,616 00

Amounts brought forward . . .	$5,911 25	$29,928 95	$65,616 00
E. A. O'Connor, Admx. . .	226 50		
John W. O'Connor	288 00		
Thomas H. O'Hara	752 50		
John Riley	645 00		
Peter Tumilty	848 75		
A. J. Woodsome	238 19		
		$8,910 19	
Traveling expenses,			
Hiram Nevons		25 40	
Wharfage,			
Cambridge Gas Light Co. .		25 00	
Total expenditures			38,889 54
Balance unexpended . .			$26,726 46

Water Works, Construction (Fresh Pond Land Account).

Appropriation	$114,141 33
Revenue appropriated	1,178 00
	$115,319 33

RECEIVED.

For Premium on bonds	$1,178 00

EXPENDED.

For Carriage hire, J. O. Whitten		5 00	
Cash expended for telegrams,			
Walter H. Harding		2 56	
Examination of titles,			
William V. Thompson . . .		60 00	
Land, heirs of Francis Smith .	$2,000 00		
Artemus White	20,000 00		
		22,000 00	
Legal services of			
City Solicitor,			
City of Cambridge . . .		750 00	
Reporting:—			
Walter Rogers & Co. . . .	29 23		
J. M. W. Yerrington . . .	309 74		
		338 97	
Services as Commissioner,			
J. Lowell		150 00	
Services of experts:—			
John Barker	15 00		
T. F. Black	65 00		
E. F. Bowker	28 00		
Amounts carried forward . . .	$108 00	$23,306 53	$115,319 33

Amounts brought forward . . .	$108 00	$23,306 53	$115,319 33
N. W. Bunker	65 05		
J. G. Chase	75 00		
Spencer Child	6 00		
T. H. Eames	70 00		
Chas. H. Greene	20 00		
Abel Jones	5 00		
Jas. Leahey	8 20		
S. L. Read	5 00		
J. A. Sears	56 00		
		418 25	
Total expenditures			23,724 78
Balance unexpended . . .			$91,594 55

Water Works, Construction (Stony Brook Water Supply).

Appropriation			$25,000 00

EXPENDED.

For Carriage hire,			
W. J. Richardson		$20 00	
Cash expended for sundries,			
Chas. J. McIntire		13 15	
Examination of titles,			
C. G. Pope and			
T. H. Armstrong		523 00	
Execution of court,			
Thos. Rhoades		1,700 61	
Legal services of City Solicitor,			
City of Cambridge		750 00	
Professional services:—			
N. Henry Crafts	$100 00		
M. M. Tidd	66 50		
		166 50	
Reporting:—			
Walter Rogers & Co. . . .	494 37		
Rogers & Jones	47 60		
		541 97	
Services of appraisers:—			
Wm. G. Miller	50 00		
Alfred Morril	50 00		
		100 00	
Services of experts:—			
Henry W. Britters	100 00		
Edward Coburn	10 00		
A. S. Fiske	10 00		
Amounts carried forward . . .	$120 00	$3,815 23	$25,000 00

Amounts brought forward . .	$120 00	$3,815 23	$25,000 00
Chas. T. Main	79 00		
Daniel Russell	10 00		
Henry J. White	10 00		
		219 00	
Type-writing, Geo. B. French .		5 90	
Total expenditures			4,040 13
Balance unexpended . .			$20,959 89

Water Works, Interest on Water Loan.

Appropriation		$87,225 00
Revenue appropriated		228 89
		$87,453 89

RECEIVED.

For Interest	$228 89	

EXPENDED.

For Interest:—		
Coupon bonds	66,460 00	
Registered bonds	18,135 00	
Total expenditures		$84,595 00
Balance unexpended . .		$2,858 89

Water Works, Maintenance.

Appropriation		$63,000 00
Revenue appropriated	$2,072 70	
Additional appropriation . . .	5,800 00	
		7,872 70
		$70,872 70

RECEIVED.

For Rent of land and buildings,		
Fresh Pond Ice Co.	$1,050 00	
Sale of engine, boiler, etc. . .	500 00	
Sale of furniture	30 00	
Sale of fruit	30 00	
Amounts carried forward . . .	$1,610 00	$70,872 70

Amounts brought forward . .		$1,610 00	$70,872 70
For Sale of grass and hay . . .		170 70	
Sale of old materials		72 00	
Sale of stone		220 00	
		2,072 70	

EXPENDED.

For Salaries of			
Superintendent, Hiram Nevons	$2,340 00		
Assistant Superintendent,			
John Harrington	1,300 00		
Engineer, E. C. Brooks . . .	1,495 00		
Assistant Engineer,			
Wm. Blaisdell	1,040 00		
Registrar and Clerk,			
Walter H. Harding	2,080 00		
Office Clerk, Harry L. Lincoln .	910 00		
Clerk, Hattie F. Milligan . .	468 00		
Clerk, Minnie L. Hixon . . .	105 00		
Inspector, Fred G. Davis . .	780 00		
Laborers, as per pay roll . . .	16,136 81		
		26,654 81	
Advertising,			
Boston Daily Advertiser . .		10 00	
Atlas of Massachusetts,			
Geo. H. Walker & Co. . .		15 00	
Binding matting, Jos. Cogan .		36 95	
Bricks:—			
N. M. Cofran	35 75		
M. W. Sands	11 00		
		46 75	
Carpentry:—			
Kelly & McKinnon	$905 69		
H. A. Scranton	12 15		
		917 84	
Carriage hire for Water Board:—			
F. D. Bartlett	81 00		
M. J. Fairbanks	35 00		
W. J. Richardson	33 00		
J. O. Whitten	6 00		
		155 00	
Car tickets:—			
Fitchburg Railroad Co. . .	17 47		
W. E. St. Railway Co. . . .	250 00		
		267 47	
Amounts carried forward . .		$28,103 82	$70,872 70

Amounts brought forward . .		$28,103 82	$70,872 70
For Changing telephone,			
Charles L. Bly		7 20	
Clocks and repairs,			
A. J. Applegate		38 50	
Copper roof, F. H. Holton & Co.		111 58	
Damages:—			
J. J. Mallahan	$10 00		
H. K. Pervear	42 19		
John I. Rasant	10 00		
		62 19	
Drain work, Sewer Department.		18 91	
Expense of entertaining the City Government at the annual inspection of the Water Works, June 17, 1891 . . .		482 80	
Expense of entertaining the Water Board and invited guests at the exhibition by Anthony P. Smith, of the Tapping Apparatus and inspection of Water Works, Oct. 10, 1891		91 64	
Expressage		115 53	
Fuel:—			
Coleman Bros.	35 50		
G. F. Frost	25 63		
Stickney, Conyngham & Co. .	3,842 39		
Freight on coal,			
Fitchburg R. Co. and others	2,715 40		
		6,618 92	
Furniture and furnishings:—			
Harry H. Cobb	56 05		
J. A. Flanagan & Co. . . .	172 50		
John H. Kelsey	85 90		
Lawrence Wilde & Co. . .	415 35		
Phillips Bros.	82 25		
Jordan, Marsh & Co. . . .	83 26		
		895 31	
Furnace, S. C. Higgins . . .		$180 00	
Gas, Cambridge Gas Light Co. .		25 12	
German numbering machine,			
W. J. McGraw & Co. . . .		35 00	
Amounts carried forward . .		$36,786 52	$70,872 70

Amounts brought forward . .		$36,786 52	$70,872 70
For Hardware, tools, machinery and repairs,			
Ames Plow Co.	$99 86		
Barbour, Stockwell & Co. .	285 95		
Geo. F. Blake Mfg. Co . .	103 35		
Boston Ice Co.	14 00		
Burditt & Bynner	277 26		
Burditt & Williams	55 75		
Chas. Carr	17 50		
Chapman Valve Co. . . .	127 51		
A. O. Corbett	161 48		
Fairbanks, Brown & Co. . .	23 20		
J. H. Houghton	267 76		
S. C. Higgins	63 28		
Hill, Clarke & Co.	289 00		
James Maitland	452 73		
J. F. Merrill	30 00		
N. E. Machine Co.	98 54		
Daniel Russell	21 00		
B. F. Sturtevant	17 00		
Walworth Mfg. Co. . . .	406 46		
Wight & Scorgie	101 54		
		2,913 17	
Hay, grain and straw : —			
Coleman Bros.	30 02		
J. Cushing & Co.	593 29		
Wm. Gallagher	17 33		
		640 64	
Horses, P. H. Dardis . . .		350 00	
Horse clipping, John Smith .		6 00	
Horse medicine, A. R. Bayley .		4 75	
Horse shoeing:—			
Wm. Bell	10 50		
Wm. F. Garrett & Co. . . .	8 76		
John F. Gurry	53 91		
Thomas Smith	92 05		
		165 22	
Ice, Fresh Pond Ice Co. . . .		20 13	
Iron fence and gates, P. J. Dinn		95 00	
Lamps, Germania Electric Co. .		13 85	
Lumber and cement:—			
Buttrick Lumber Co. . . .	26 12		
Geo W. Gale Lumber Co. . .	541 61		
Chas. W. Henderson . . .	30 00		
Geo. McQuesten & Co. . .	56 00		
Amounts carried forward . . .	$653 73	$40,995 28	$70,872 70

Amounts brought forward . .	$653 73	$40,995 28	$70,872 70
Waldo Bros.	25 00		
Geo. M. Winslow & Co. . .	96 75		
Wm. H. Wood & Co. . . .	25 79		
		801 27	
Masonry:—			
A. P. Greenleaf	8 15		
Leach & Grant Co.	10 88		
M. N. Stearns	233 96		
		252 99	
Matting, Wakefield Rattan Co.		76 05	
Meters and repairs.—			
A. J. Applegate	7 30		
National Meter Co.	54 81		
Union Water Meter Co. . .	62 61		
H. R. Worthington	145 87		
		270 59	
Moving house, H. S. Angus . .		285 00	
Newspapers		12 00	
Oat meal, H. M. Grant . . .		8 60	
Oil, packing, etc.:—			
E. W. Bigelow & Co. . . .	74 50		
Boston Woven Hose Co. . .	70 06		
J. A. Holmes & Co.	49 26		
Maverick Oil Co.	13 79		
S. C. Nightingale & Childs .	133 11		
A. N. Reynolds & Co. . . .	80 48		
		421 20	
Painting, glazing, etc.:—			
J. L. P. Ackers	504 41		
Geo. O. Danforth	3 75		
Clifford Hunting	3 25		
J. H. & J. P. Thayer & Co. .	428 58		
		939 99	
Paving:—			
H. Gore & Co.	13 60		
H. T. Soper	7 20		
		20 80	
Paving blocks,			
Street Department		49 09	
Photographs:—			
D. W. Butterfield	4 00		
W. R. Holland	4 00		
		8 00	
Pipe and cement, D. W. Lewis		38 52	
Plastering, Wm. J. Heron . .		54 00	
Ploughing, John Martin . . .		5 00	
Amounts carried forward . . .		$44,238 38	$70,872 70

Amounts brought forward . . .		$44,238 38	$70,872 70
For Plumbing:—			
Dalton Ingersoll Co. . . .	11 33		
D. W. Gage	78 49		
Levi Hawkes & Co.	440 45		
J. H. Stevens & Co.	75		
		531 02	
Refreshments for laborers . .		13 40	
Removing pile foundation at Fresh Pond,			
John P. Perkins & Son . . .		100 00	
Rent of office, board-room and shop		2,000 00	
Repairing and rebuilding reservoir wall:—			
John Cavanagh & Co. . . .	$1,148 00		
L. P. Soule & Son	10,829 18		
Wight & Scorgie	6,932 28		
		18,909 46	
Rubber boots, H. Sleap & Co. .		31 75	
Sand, Wm. Condon		2 00	
Screenings, F. W. Mead . . .		83 00	
Seed, etc., R. & J. Farquhar & Co.		59 20	
Services, P. Allen Lindsey . .		5 00	
Shells, Wm. Read & Sons . .		4 00	
Speaking tubes:—			
F. M. Buffum	16 57		
Seth W. Fuller	3 28		
		19 85	
Stationery and printing:—			
American Bank Note Co. . .	30 00		
Charles S. Binner & Co. . .	3 00		
Cotton & Gould	170 07		
James H. Cox	5 50		
John Ford & Son	52 00		
Frost & Adams	3 20		
Harvard Printing Co. . . .	22 06		
Walker, Young & Co. . . .	8 00		
Winkley, Dresser & Co. . .	115 38		
		409 21	
Stone work:—			
Richard Conway	78 55		
Austin Ford	3 00		
Alex. McDonald & Son . . .	9 00		
		90 55	
Sundry repairs		96 80	
Amounts carried forward . . .		$66,593 62	$70,872 70

Amounts brought forward . .		$66,593 62	$70,872 70
For Telephone rent and tolls,			
N. E. Telephone Co. . . .		450 52	
Teaming:—			
James Boyle	106 25		
John Brassill	15 00		
Peter Burns	316 25		
T. A. Callahan	111 25		
Charles Conlan	63 75		
Patrick Curley	148 75		
P. H. Dardis	106 25		
John H. Doody	106 25		
D. J. Glynn	4 38		
Patrick Kelley	21 00		
David Landergan	62 25		
Mary O'Connor	60 75		
Thomas H. O'Hara	106 25		
Peter Tumilty	439 56		
Joseph F. White	76 25		
A. J. Woodsome	6 00		
		1,750 19	
Wagons, harness and repairs:—			
M. Cavanagh	101 80		
L. C. Chase & Co.	14 00		
Fred C. Gifford	3 50		
F. Ivers & Son	35 00		
A. J. Jones	147 84		
Stewart Bros.	146 95		
Charles Waugh & Co. . . .	31 00		
		480 09	
Total expenditures			69,274 42
Balance unexpended . . .			$1,598 28

Water Works, Rates, Fines, etc.

RECEIVED.

From sundry persons for water rates, fines, etc.	$234,175 37

EXPENDED.

Street Department, construction and maintenance of sundry streets in Belmont district . .	$12,400 00	
Water Works:—		
Maintenance	67,201 72	
Interest on water loan	84,366 11	
Rates, fines, etc., abatements .	3,088 90	
R. F., etc., refunds	1,719 16	
Sinking funds	65,399 48	
Total expenditures		$234,175 37

Water Works, R. F., etc. (Abatements).

Appropriation	$4,500 00

EXPENDED.

For abatements allowed on water rates to sundry persons . . .	$3,088 90
Balance unexpended . .	$1,411 10

Water Works, R. F., etc. (Refunds).

Appropriation	$2,500 00

EXPENDED.

For water rates refunded to sundry persons	$1,719 16
Balance unexpended . . .	$780 84

Water Works, Sinking Funds.

Appropriation			$62,222 50
Additional appropriation			3,503 63
			$65,726 13

EXPENDED.

For salary of Treasurer, William W. Dallinger . . .		$200 00	
Rent of box, Cambridge Safety Vaults . .		20 00	
Amount paid Trustees of Water Loan Sinking Fund:—			
Appropriation for 1891 . .	$62,002 50		
Surplus receipts for 1891 .	3,503 63		
		65,506 13	
Total expenditures			$65,726 13

Water Works, Supplies.

Appropriation		$5,880 00
Additional appropriation . . .		1,089 75
		$6,969 75

RECEIVED.

From sundry persons for supplies	$7,169 75

EXPENDED.

For Labor as per pay rolls . . .	3,200 00	
Pipe and fittings:—		
Chapman Valve M'f'g Co. .	$1,107 70	
Walworth M'f'g Co. . . .	2,503 10	
Total expenditures		$6,810 80
Balance unexpended . . .		$158 95

Water Works, Supplies (Abatements).

Appropriation	$200 00

EXPENDED.

For Abatements allowed on supplies to sundry persons . . .	32 30
Balance unexpended . .	$167 70

Recapitulation.

City Department Accounts.	Receipts.	Appropriations.	Expended to Date.	Bal. Unexpended.
Assessor's Department		$9,600 00	$9,585 82	$14 18
Auditors' Department		3,200 00	3,118 43	81 57
Bridge (Harvard),	$52 50	15,363 85	8,205 01	7,158 84
Bridges(W.Boston,Craigie's and Prison Pt.	1,831 97	13,131 97	12,758 97	373 00
Cambridge Cemetery	17,531 52	19,000 00	18,131 22	868 78
Cambridge Public Library	4,447 80	13,500 00	13,426 22	73 78
City Clerk's Department	2,231 62	5,681 62	5,656 66	24 96
City Messenger's Department		2,650 00	2,533 83	116 17
City Treasurer's Department	1,579 55	11,879 55	11,629 03	250 52
Civil Service Department		250 00	224 80	25 20
Clerk of Committees' Department		3,500 00	3,428 36	71 64
Election Expenses, Registration of Voters		7,500 00	7,385 56	114 44
Engineering Department	86 40	9,511 40	9,448 59	62 81
Executive Department		2,750 00	2,583 60	166 40
Fire Department	157 40	66,832 93	66,773 83	59 10
Health Department		4,500 00	4,392 39	107 61
Incidental Expenses	3,742 53	14,350 00	8,075 97	6,274 03
Inspection of Milk and Vinegar	132 00	1,050 00	1,041 24	8 76
Inspection of Wires	758 99	7,300 00	7,299 85	15
Interest	5,544 51	132,544 51	127,180 58	5,363 93
Law Department	1,500 00	3,100 00	2,830 94	269 06
Lighting Streets	125 65	49,050 65	47,989 92	1,060 73
Pauper Department :—				
Almshouse	2,311 60	21,811 60	21,679 31	132 29
Farm and Ledge	11,217 60	7,717 60	7,714 13	3 47
House Offal	7,716 77	18,716 77	18,714 62	2 15
Outside Aid	3,246 26	33,500 00	33,496 53	3 47
Salary Assistant City Physician		1,500 00	1,500 00	
Police Department	11,154 10	99,854 10	98,363 28	1,490 82
Public Property :—				
City Buildings	2,907 97	21,700 00	21,676 89	23 11
Incidental Expenses		2,750 00	2,664 63	85 37
New City Hall (Furnishings)		8,000 00	7,997 83	2 17
New Engine House in Ward Four	26 30	12,800 77	12,772 01	28 76
School Houses :—				
Care and Repairs	47 37	40,947 37	40,928 61	18 76
New High School-House		121,000 30	64,956 64	56,043 66
New School-House Ward Four		53,200 00	53,188 63	11 37
School Department :—				
Incidental Expenses		700 00	699 88	12
Salaries	1,427 33	201,427 33	200,848 45	578 88
Text-Books and Supplies	322 76	12,572 76	12,386 15	186 61
Sealer of Weights and Measures	467 79	1,967 79	1,560 44	407 35
Sewer Department :—				
Construction	10,213 04	20,213 04	18,420 49	1,792 55
Maintenance	1,440 17	35,000 00	34,473 19	526 81
Sinking Funds		75,170 00	75,170 00	
State Aid	12,425 81	23,225 81	22,693 05	532 76
Stationery and Printing	576 62	3,000 00	2,998 70	1 30
Street Department :—				
Bridges (Rebuilding, Widening, and Maintenance)		24,000 00	23,922 64	77 36
Construction and Maintenance of sundry Streets (Belmont District)		12,400 00	12,400 00	
Extensions and Widenings :—				
Front Street		2,312 43		2,312 43
Main Street		2,990 00	2,990 00	
Winsor Street		2,400 00	2,400 00	
Filling and Grading Front Street		60,000 00	50,859 35	9,140 65
Maintenance, including the Collection of Ashes	2,673 65	111,373 65	111,371 15	2 50
Paving :—				
Cambridge Street		18,000 00	17,991 21	8 79
Edgestones and Sidewalks	9,536 89	30,000 00	29,994 67	5 33
Shade Trees and Public Grounds	126 13	6,026 13	5,920 74	105 39
Watering	13,977 80	20,477 80	20,470 81	6 99
	$131,538 40	$1,503,001 73	$1,406,924 85	$96,076 88

Recapitulation—*Continued.*

Water Department Accounts.	Receipts.	Appropriations.	Expended to Date.	Bal. Unexpended.
Water Works :—				
Construction	$616 00	$65,616 00	$38,889 54	$26,726 46
Construction (Fresh Pond Land Account)	1,178 00	115,319 33	23.724 78	91,594 55
Construction (Stony Brook)		25,000 00	4,040 13	20,959 87
Interest	228 89	87,453 89	84,595 00	2,858 89
Maintenance	2,072 70	70,872 70	69,274 42	1,598 28
Rates, Fines, etc	234,175 37			
Rates, Fines, etc. (Abatements)		4,500 00	3,088 90	1,411 10
Rates, Fines, etc. (Refunds)		2,500 00	1,719 16	780 84
Sinking Funds		65,726 13	65,726 13	
Supplies	7,169 75	6,969 75	6,810 80	158 95
Supplies (Abatements)		200 00	32 30	167 70
	$245,440 71	$444,157 80	$297,901 16	$146,256 64

Cambridge Water Works, in account with the City of Cambridge for the year ending November 30, 1891:—

Receipts and Expenditures.

Balance in the City Treasury to the credit of Water Works, November 30, 1890	$13,780 13	Expended on General Construction Account	$38,889 54
Received from sale of bonds:		Fresh Pond Land Account	23,724 78
General Construction Loan	35,000 00	Stony Brook Account	4,040 13
Fresh Pond Land Loan	20,000 00	Interest Account	84,595 00
Premiums and accrued interest	2,022 89	Maintenance Account	69,274 42
Revenue on Maintenance Account	2,072 70	Rates, fines, Abatements Account	3,088 90
Revenue from water rates, fines, etc.	234,175 37	Rates, fines, Refunds Account	1,719 16
Revenue from supplies	7,169 75	Sinking Funds Account	65,726 13
		Supply Account	6,810 80
		Supply, Abatement Account	32 30
		Transferred to Street Department	12,400 00
		*Balance carried forward	3,919 68
	$314,220 84		$314,220 84

*The balance carried forward is as follows :—

Water Works Construction, Fresh Pond Land Account		$11,594 55
Less amounts due City of Cambridge :		
General Construction Account	$3,273 54	
Stony Brook Account	4,401 33	
		7,674 87
Balance due Cambridge Water Works		$3,919 68

The following is a schedule of property used for religious, charitable and educational purposes and exempt from taxation by law, not including that owned by the City of Cambridge:—

Exempted Property.

WARD ONE.

Christ Church, Episcopal, Garden street:—		
Church	$12,000 00	
19,215 feet land . . .	10,000 00	
		$22,000 00
First Parish Church, Unitarian:—		
Church, North avenue .	20,000 00	
14,764 feet land . . .	22,000 00	
		42,000 00
Cambridge Social Union:—		
Personal property . . .	1,500 00	
House No. 42 Brattle st.	5,000 00	
$\frac{6}{11}$ of hall	6,000 00	
9,030 feet land . .	6,000 00	
		18,500 00
North Ave. M. E. Church:—		
Church, North avenue .	2,000 00	
11,248 feet land . . .	9,000 00	
		11,000 00
Old Cambridge Baptist Society:—		
Church, Main and Harvard streets . . .	86,000 00	
34,573 feet land . . .	24,000 00	
		110,000 00
Shepard Congregational Society:—		
Church, Garden street .	100,000 00	
34,556 feet land . . .	21,000 00	
		121,000 00
St. Peter's Catholic, Concord avenue	43,000 00	
32,000 feet	10,000 00	
		53,000 00
St. Paul's Catholic, Mt. Auburn street	22,000 00	
11,216 feet land . . .	8,000 00	
		30,000 00
Amount carried forward		$407,500 00

Amount brought forward		$407,500 00
St. Paul's Catholic School Association:—		
Personal property . . .	$500 00	
School building	49,000 00	
House, Arrow and Mt. Auburn streets . .	6,500 00	
29,091 feet land . . .	14,500 00	
		70,500 00
Cambridge Hospital:—		
Personal property . . .	95,943 52	
Building, Mt. Auburn street	55,000 00	
412,487 feet land . .	41,000 00	
		191,943 52
Longfellow Memorial Association:—		
Personal property . . .	15,939 43	
Park, S. S. Brattle street, 93,618 feet	23,000 00	
		38,939 43
Episcopal Theological School, Trustees of:—		
Personal property . . .	110,648 69	
Chapel, Seminary, dormitories, and two houses, Brattle and Mason sts. 210,400 00		
101,874 ft. land . 51,000 00		
	261,400 00	
Two houses, Hawthorne and Acacia streets . . 10,300 00		
7,500 feet land . 3,700 00		
	14,000 00	
		386,048 69
Corporation of Avon Place Trustees, Mt. Auburn St., 69,470 feet of land . . .		14,000 00
Society for the Collegiate Instruction of Women:—		
Personal property . . .	75,000 00	
Amounts carried forward	$75,000 00	$1,108,931 64

Amounts brought forward	$75,000 00	$1,108,931 64	
House, laboratory and gymnasium, Garden and Mason streets	20,000 00		
43,558 feet land . . .	30,000 00		
		125,000 00	
The Corporation of the New Church Theological School:—			
Personal property . . .	52,463 00		
House and Stable, 48 Quincy street . . .	10,000 00		
60,000 feet land . . .	36,000 00		
		98,463 00	
President and fellows of Harvard College:—			
Personal property . . .	5,871,994 00		
Dormitories, Chapel, Laboratories, Museums, Lecture Rooms and Houses, including Ward Five property	2,688,000 00		
		8,559,994 00	
			$9,892,388 64

WARD TWO.

Baptist Church, Trustees of Funds of:—			
Chapel, Hampshire street	$3,000 00		
2,560 feet land . . .	800 00		
		$3,800 00	
Broadway Baptist Church:—			
Church, W. S. Boardman street	30,000 00		
11,620 feet land	8,000 00		
		38,000 00	
Cambridgeport Unitarian Society:—			
Church, N. S. Austin st.	18,000 00		
13,116 feet land . .	8,000 00		
		26,000 00	
Harvard street M. E. Society:—			
Church, N. S. Harvard street	22,000 00		
10,030 feet land . . .	8,000 00		
		30,000 00	
Amounts carried forward		$97,800 00	$9,892,388 64

Amounts brought forward		$97,800 00	$9,892,388 64
St. Paul's A.M.E. Church:—			
Church, N. S. Hastings street	$2,000 00		
5,386 feet land	2,000 00		
		4,000 00	
Stearns Chapel, Congregationalist:—			
Church, N. S. Harvard street	8,000 00		
6,000 feet land	3,000 00		
		11,000 00	
First Evangelical Congregational Society:—			
Church, W. S. Prospect street	40,000 00		
19,513 feet land	12,000 00		
		52,000 00	
First A. M. E. Society:—			
House, 108 Hastings street	600 00		
1,616 feet land	500 00		
		1,100 00	
First Universalist Society of Cambridge:—			
Church, E. S. Inman street	20,000 00		
15,312 feet land	11,300 00		
		31,300 00	
St. Mary's Parochial School:			
Church, W. S. Norfolk, corner Harvard street	45,000 00		
Girls' School, S. S. Harvard street	8,000 00		
Boys' School. E. S. Essex street	18,000 00		
Sisters' Home, 50 and 52 Essex street	7,000 00		
57,428 feet land	20,000 00		
Theatre, E. S. Norfolk street	15,000 00		
13,032 feet land	6,500 00		
Gymnasium, E. S. Prospect street	35,000 00		
11,370 feet land	5,600 00		
House, 55 Norfolk street	7,500 00		
7,500 feet land	2,300 00		
		169,900 00	
Amounts carried forward		$367,100 00	$9,892,388 64

Amounts brought forward		$367,100 00	$9,892,388 64
Cambridge Home for Aged People, 157 Hancock st.:—			
12,094 feet of land . .	$6,000 00		
One house	7,000 00		
		13,000 00	
St. Luke's Reformed Episcopal Church, N. S. Harvard, corner of Inman street:—			
6,250 feet of land . . .	4,500 00		
Church building . .	9,000 00		
		13,500 00	
			$393,600 00

WARD THREE.

First Methodist Episcopal Church:—			
Church, Cambridge, corner Third street . .	$25,000 00		
5,000 feet land . . .	12,500 00		
		$37,500 00	
Second Baptist Society:—			
Church, Cambridge and Fourth streets . . .	12,000 00		
6,000 feet land . . .	10,000 00		
		22,000 00	
Missions of the Ascension:			
Church, Third and Thorndike streets	5,000 00		
5,000 feet land . . .	4,000 00		
		9,000 00	
Second Universalist Society:			
Church, Otis street . .	16,000 00		
5,000 feet land . .	3,000 00		
		19,000 00	
St. John's Church:—			
Church, Fourth street . .	25,000 00		
5,000 feet land . . .	3,000 00		
		28,000 00	
Church of Sacred Heart:			
Church, Sixth, Otis and Seventh streets . .	70,000 00		
30,000 feet land . . .	12,000 00		
		82,000 00	
Amounts carried forward		$197,500 00	$10,285,988 64

Amounts brought forward		$197,500 00	$10,285,988 64
Middlesex County Buildings:			
Court House, Third, Otis and Thorndike streets	$70,000 00		
Registry of Deeds, Second, Otis, and Third streets	175,000 00		
60,000 feet land . . .	36,000 00		
		281,000 00	
House of Correction, Jail and shops, Thorndike, Third, Spring and Second streets	250,000 00		
60,000 feet land . . .	24,000 00		
		274,000 00	
St. John Literary Institute:			
Hall and stores, Cambridge street. ⅔ value . . .	20,000 00		
½ of 6,300 feet land . .	4,700 00		
		24,700 00	
			$777,200 00
WARD FOUR.			
Cambridge Young Men's Christian Association:—			
Personal property . . .	$1,731 84		
Building, 622–624 Main street	8,000 00		
Land	8,000 00		
		17,731 84	
Charles River Baptist Church:—			
Church, E. S. Magazine street	3,000 00		
11,250 feet land . . .	3,000 00		
		6,000 00	
First Baptist Society:—			
Church, Central square .	80,000 00		
21,200 feet land . . .	20,000 00		
		100,000 00	
Grace M. E. Church:—			
Church, E. S. Magazine street	35,000 00		
7,700 feet land . . .	5,000 00		
		40,000 00	
Mass. Baptist Convention—			
Union Baptist Church:—			
Church, 452 Main street .	10,000 00		
3,900 feet land . . .	2,800 00		
		12,800 00	
Amounts carried forward		$176,531 84	$11,063,188 64

Amounts brought forward		$176,531 84	$11,063,188 64
Pilgrim Congregational Church:—			
Church, W. S. Magazine street	30,000 00		
8,885 feet land . . .	7,500 00		
		37,500 00	
Protestant Episcopal Church, Trustees of donations to:—			
Church, S. S. Main street (St. Peter's) . . .	10,000 00		
9,229 feet land . . .	9,000 00		
		19,000 00	
Rush African M. E. Zion Church:—			
Church, S. S. School street	6,000 00		
Lot No. 7, 2,760 feet .	1,100 00		
		7,100 00	
St. Phillip's Church, Episcopal:—			
Church, N. S. Allston street	3,000 00		
4,686 feet land . . .	1,200 00		
		4,200 00	
Wood Memorial Church, Congregationalist:—			
Church, W. S. Columbia, corner Austin street .	30,000 00		
7,500 feet land . . .	4,000 00		
		34,000 00	
			$278,331 84
WARD FIVE.			
Catholic Cemetery, Spruce street, 304,014 feet . . .		$24,000 00	
North avenue Congregational Society:—			
Church, North avenue .	30,000 00		
13,430 feet land . . .	6,500 00		
		36,500 00	
Third Universalist Society:			
Church, North avenue .	30,000 00		
11,958 feet land . . .	6,000 00		
		36,000 00	
Amounts carried forward		$96,500 00	$11,341,520 48

Amounts brought forward		$96,500 00	$11,341,520 48
St. James Episcopal Society:			
Church and Chapel, North avenue and Beech street	75,000 00		
21,207 feet land (cemetery lot included)	10,000 00		
		85,000 00	
North avenue Baptist Society:—			
Church, North avenue	55,000 00		
38,873 feet land	15,000 00		
		70,000 00	
Corp. of Avon Place, Trustees:—			
Personal property	42,437 00		
Buildings, Avon Hill street	4,500 00		
16,810 feet land	3,500 00		
		50,437 00	
			301,937 00
Total			$11,643,457 48

Schedule of Real Estate Owned by the City of Cambridge, as shown on the Assessors' Books, November 30, 1891.

Cambridge Cemetery:—			
$60\frac{1}{10}$ acres of land		$60,000	
2 houses		12,500	
			$72,500
Cambridge Public Library:—			
135,621 feet of land		$33,000	
Library Building		100,000	
			133,000
Fire Department:—			
Hook and Ladder No. 2, Portland street	$12,000		
11,931 feet land	3,000		
		$15,000	
Engine House No. 5, Junction Cambridge and Hampshire streets	10,000		
6,000 feet land	3,000		
		13,000	
Engine House, Fourth street	9,000		
4,220 feet land	2,100		
		11,100	
Amounts carried forward		$39,100	$205,500

Amounts brought forward		$39,100	$205,500
Engine House No. 4 and stable, North avenue	7,000		
6,516 feet land	3,000		
		10,000	
Engine House No. 2, Main street .	5,000		
3,150 feet land	3,000		
		8,000	
Engine House No. 6, River street .	12,000		
4,994 feet land	2,500		
		14,500	
			71,600
Pauper Department:—			
$14\frac{242}{1000}$ acres of land		11,000	
Almshouse buildings		25,000	
			36,000
Public Buildings and Lands:—			
City Hall (new), Main street . . .	200,000		
48,474 feet land	48,500		
		248,500	
City Hall (old), Main street . . .	10,000		
12,881 feet land	19,300		
		29,300	
Ward One Building, Mount Auburn street	60,000		
16,153 feet land	9,700		
		69,700	
Ward Four Building, Green street .	50,000		
13,028 feet land	10,500		
		60,500	
Stables, Sheds and Scales, Hampshire street	17,000		
72,661 feet land	30,000		
		47,000	
1 House N. S. Spruce street . . .		4,000	
Park, Boylston and Mt. Auburn streets, 10,236 feet land . . .		6,000	
Park, S. S. Broadway, 107,181 feet land		54,000	
Park, Hastings square, 30,000 feet land		9,000	
Park, Dana square, 33,531 feet land.		12,000	
Park, Pleasant street, 1,372 feet land		1,000	
Park, Pleasant, River, Cottage and Kinnaird streets, 1,569 feet land		1,200	
Fort Washington, E. S. Waverly street, 42,123 feet land. . . .		8,000	
Amounts carried forward		$550,200	$313 100

Amount brought forward		$550,200	$313,100
Mill Pond, N. S. River street, 305,690 feet		46,000	
Lot, S. S. Porter street, 3,578 . . .		700	
Lot, E. S. Portland street, 18,011 feet		5,500	
8 Lots, E. S. Norfolk street, 39,600 feet		12,000	
Lot, S. S. Broadway, 17,515 feet . .		7,000	
Lot, Second street, 26,400		1,300	
Lot, W. S. Reed street, 1,500 feet .		100	
2 Lots, Walden street, 16,365 feet .		900	
Lot, N. S. River street, 2,282 feet .		700	
Wharf, S. S. Main street, 9,400 . .		7,300	
Flats, S. S. Main street, 162,000 feet		7,600	
Park, Garden, North avenue and Waterhouse streets, 370,785 feet			
Park, North avenue, Kirkland and Cambridge streets, 33,357 feet .			
Burial Ground, North avenue and Garden street, 85,858 feet.			
Triangular Lot, Chauncy and Garden street, 3,189 feet.			
Main and Arrow streets, 872 feet			
North avenue and Harvard square, 23,074 feet.			
Park, North avenue, Cambridge street, and Holmes place, 20,956 feet.			
		———	639,300
			$952,400

School houses and lands:—

WARD ONE.

New High School (unfinished) Broadway	$125,000		
74,366 feet land	18,000		
	———	$143,000	
Washington Grammar, Brattle street	30,000		
14,951 feet land	7,000		
	———	37,000	
Corlett Grammar, Holworthy . . .	3,000		
10,000 feet land	600		
	———	3,600	
		———	———
Amounts carried forward		$183,600	$952,400

Amounts brought forward		$183,600	$952,400
Agassiz Primary, Sacramento street	18,000		
19,689 feet land	6,000		
		24,000	
Cushing Primary, Cushing street .	3,000		
14,787 feet land	1,000		
		4,000	
Dunster Primary, Concord avenue .	4,000		
10,000 feet land	2,000		
		6,000	
Holmes Primary, Hilliard street . .	6,000		
11,182 feet land	4,500		
		10,500	
Lowell Primary, Lowell street . .	7,000		
12,033 feet land	2,000		
		9,000	
Quincy Primary, Mason street . .	10,000		
8,469 feet land	4,200		
		14,200	
Riverside Primary, Putnam avenue	5,000		
11,198 feet land	2,800		
		7,800	
WARD TWO.			
English High, Fayette street . . .	$40,000		
37,828 feet land	15,000		
		55,000	
Latin High, Lee street	10,000		
10,100 feet land	5,000		
		15,000	
Wellington Training, Columbia street	16,000		
18,870 feet land	5,700		
		21,700	
Allston Grammar, Boardman street	18,000		
15,193 feet land	4,600		
		22,600	
Harvard Grammar, Inman street .	40,000		
20,494 feet land	12,000		
		52,000	
Bridge Primary, Pioneer street . .	500		
4,646 feet land	1,400		
		1,900	
Dana Primary, Centre street . . .	2,000		
14,317 feet land	4,300		
		6,300	
Amounts carried forward		$433,600	$952,400

Amounts brought forward		$433,600	$952,400
Felton Primary, Amory street . .	6,000		
15,090 feet land	4,500		
		10,500	
Gannett (old) Primary, Columbia .	2,000		
8,803 feet land	2,500		
		4,500	
Gannett (new) Primary Jefferson street	12,000		
15,434 feet land	3,000		
		15,000	
Sargent Primary, Broadway . . .	3,000		
9,995 feet land	4,000		
		7,000	
Stearns Primary, Harvard street . .	3,000		
10,050 feet land	5,000		
		8,000	
WARD THREE.			
Putnam Grammar, Fourth and Otis streets	60,000		
11,900 feet land	8,300		
		68,300	
Thorndike Grammar, Thorndike street	30,000		
10,027 feet land	4,000		
		34,000	
Gore Primary, Gore street	25,000		
9,900 feet land	4,000		
		29,000	
Lassell Primary, Charles street . .	8,000		
10,000 feet land	2,500		
		10,500	
Otis Primary, Otis street	12,000		
8,270 feet land	4,000		
		16,000	
WARD FOUR.			
Webster Grammar, Upton street .	$50,000		
25,839 feet land	9,000		
		59,000	
Boardman Primary, Winsor street	12,500		
10,018 feet land	4,000		
		16,500	
Amounts carried forward		$711,900	$952,400

Amounts brought forward		$711,900	$952,400
Mason Primary, Front street . . .	2,000		
10,000 feet land	8,000		
		10,000	
Tarbell Primary, Grigg street . . .	8,000		
19,500 feet land	4,000		
		12,000	
Willard Primary, Lake street . . .	20,000		
20,079 feet land	5,000		
		25,000	
New Ward Four School house on Allston and Brookline streets, unfinished	25,000		
25,650 feet land	7,000		
		32,000	

WARD FIVE.

Peabody Grammar, Linnæan street	$25,000		
21,813 feet land	6,500		
		31,500	
Shepard Grammar, North avenue .	20,000		
14,755 feet land	7,000		
		27,000	
Reed Primary, Reed street . . .	3,500		
12,000 feet land	1,000		
		4,500	
Wyman Primary, Spruce street . .	6,000		
14,347 feet land	2,400		
		8,400	
			862,300
Sewer Department.—			
23,707 feet of land		5,900	
Stables, shed and house		3,500	
			9,400
Total			$1,824,100
Water works:—			
House and barn, S. S. Concord avenue	1,300		
House, S. S. Concord avenue . . .	2,000		
$27\frac{33}{100}$ acres land	16,700		
		20,000	
Land, S. S. Concord avenue, $\frac{5}{8}$ acre		300	
Land, E. S. Woodlawn avenue 15,735 feet.			
Lot, rear of Grove street in Belmont, 272,800 feet.			

Lot, S. S. Concord avenue, 90,000 feet.		
Land, S. S. Concord avenue 11,220 feet.		
2 Lots, S. S. Concord avenue, 219,400 feet.		
Lot, S. S. Concord avenue, 24,100 feet.		
Hotel, house, stables, etc., Fresh Pond Lane	12,000	
11¼ acres land.		
Kingsley Park, Fresh Pond Lane, 309,336 feet.		
Lot, rear Fresh Pond Lane, 364,608 feet.		
Lot, Holworthy street, 18,480 feet.		
Lot, Woodlawn avenue, 107,616 feet.		
Lot, Woodlawn avenue, 26,989 feet.		
Lot, rear of Fresh Pond Lane, 239,541 feet.		
Lot, Woodlawn avenue, 91,040 feet.		
Lot, W. S. Cushing street, 22,348 feet.		
Lot, E. S. Cushing street, 41,053 feet.		
Lot, Cushing street, cor. of Woodlawn avenue, 95,482 feet.		
Lot, Woodlawn avenue, 24,096 feet.		
Lot, E. S. Cushing street, 222,750 feet.		
Lot, E. S. Cushing street, 416,800 feet land.		
2 Lots, near Fresh Pond and Adams place, 110,891 feet.		
House, Adams place.	400	
House, Adams place.	200	
55,275 feet land.		
Land, Adams place, 105,322 feet.		
Lot, Woodlawn avenue, 25,216 feet land.		
Gravel pit, S. S. Concord Avenue, 397,417 7/10 feet.		
House, stable and shed, Adams street	1,400	
190,500 feet	4,300	
	5,700	

Lot, W. S. Cushing street, 91,112 feet		200
6 Icehouses, near Concord avenue and railroad	20,000	
Engine house, near Concord avenue and railroad	1,200	
House, shed and stable, near Concord avenue and railroad	1,100	
6 Icehouses, near Concord avenue and railroad	18,000	
3 Icehouses, near Concord avenue and railrord	3,700	
4½ acres land.	6,000	
		50,000
House, near Fresh Pond	2,000	
House, old, Adams place	800	
Barn and shed, Adams place	1,200	
Tool house, Adams place	600	
Two icehouses, Adams place	7,000	
Three icehouses, Adams place	15,000	
Engine house and sheds, Adams place	1,100	
Office and scales, Adams place	300	
Icehouses (Black's), Adams place	3,000	
419,222 feet land	21,000	
		52,000
House, S. S. Concord avenue	500	
10,805 feet land	500	
		1,000
House, Concord avenue, corner Adams street	700	
32,425 feet land	700	
		1,400
House and stable, Concord avenue	2,000	
62,000 feet land	1,200	
		3,200
Lot, Adams street, 1¾ acres		1,000
House and stable, S. S. Concord avenue	4,000	
294,000 feet land	3,000	
		7,000

Tudor Park, near Concord avenue, 57,312 feet land.		
Pumping Station, Worthington street, 90,414 feet land.		
Reservoir, Reservoir street, 91,003 feet land.		
One house, stable and sheds, S. S. Auburn street	3,700	
33,300 feet land	6,600	
		10,300

REPORT

OF THE

COMMITTEE ON ACCOUNTS.

CAMBRIDGE, December 29, 1891.

To the Honorable the City Council of the City of Cambridge: —

THE Committee on Accounts for the year 1891 respectfully submits its annual report as required by the City Ordinance.

The Committee has from time to time made the prescribed examination of the books of the Auditor of Accounts and duly approved the same.

The recommendation of the Committee on Accounts for 1890 that separate appropriations be made to cover the expenditures for each department, so that the total cost of every department for the financial year be clearly shown, was adopted by the City Council in making the appropriations for 1891.

The large number of appropriation accounts caused by this departure has greatly increased the work in the Auditor's Department, which has been cheerfully performed with good results, as will be seen by an examination of the Auditor's Report for 1891.

The Committee recommends that the several executive boards of the city and officers at the heads of departments be more particular about the bills approved by them being upon paper of sufficient length and width to admit of proper backing and filing, written in a legible hand with the dates of purchase or labor performed and, when contracted under a special order, so designated.

E. BURT PHILLIPS,
SILAS E. BUCK,
W. R. ELLIS,
HERMAN BACHMAN,
F. W. MACDONALD,

Committee on Accounts.

REPORT

OF THE

COMMITTEE ON FINANCE.

The Committee on Finance for the year 1891, submits herewith its annual report.

The committee reported its estimates with the usual orders making appropriations in accordance therewith, in the month of February last, as provided by City Ordinance. The estimates were as follows: —

Estimates of Appropriations and Revenue, 1891.

RECAPITULATION.

	Appropriations.	Revenue.	Net Expense.
Total estimates, City Department accounts	$1,410,584 08	$125,000 00	$1,285,384 08
Total estimates, Water Department accounts	399,668 83	239,668 83	160,000 00
Grand totals	$1,810,252 91	$364,868 83	$1,445,384 08
Amount of estimated expenses, as before recited,		$1,810,252 91	
Allowance for estimated uncollected taxes *of the year* 1891, remaining uncollected as of Nov. 30, 1891		100,000 00	
Total appropriations and liabilities			$1,910,252 91

LESS.

Estimated revenue of all kinds, and cash in the treasury,	$549,037 76
Leaving an amount to be provided for of	$1,361,215 15

It was recommended that provision be made for raising this amount as follows: —

1.	By the issue of City Loan Bonds, viz.: —		
	High School Loan	$110,000 00	
	Morse School House in Ward Four	50,000 00	
	Sewer Loan (for Sundry Sewers)	15,000 00	
	Bridge Loan (for Widening and Rebuilding certain Bridges	15,000 00	
			$190,000 00
2.	By the issue of Water Loan Bonds, viz.: —		
	Water Works (Construction)		160,000 00
3.	By assessments upon the polls and estates of the inhabitants of Cambridge, etc., for the current year, being the amount required for municipal expenses for the year (the State Tax and County Tax will be assessed by the Assessors, by authority of law, in addition hereto)		1,011,215 15
	Total		$1,361,215 15

These estimates were adopted by the City Council, as reported by the Committee, the net sum which the assessors were required to raise by assessment upon the polls and estates of the inhabitants of Cambridge, being the amount stated in paragraph No. 3 of the foregoing recommendation, viz.: —

	$1,011,215 15
The assessors added the sum of	131,586 36
Making the total amount of the warrant	$1,142,801 51

These additions are given in detail in the report of the Auditor of Accounts.

Besides these regular appropriations as before stated, various special appropriations were made from time to time during the year on recommendation of this Committee.

Bonds of the City of Cambridge were issued and disposed of

by this Committee, under authority of orders of the City Council, as follows: —

Loan, Bridge (Ten-year coupon bonds, issued July 1, 1891) . .	$15,000 00
Loan, Harvard Bridge (Thirty-year coupon bonds issued July 1, 1891)	60,000 00
Loan, High School (Ten-year coupon bonds, issued January 1, 1891)	110,000 00
Loan, School-House (Ten-year coupon bonds, issued July 1, 1891)	50,000 00
Loan, Sewer (Twenty-year coupon bonds, issued July 1, 1891) .	15,000 00
Loan, Water (Twenty-year coupon bonds, issued January and October, 1891)	55,000 00
	$305,000 00

TOTAL AMOUNT OF BONDS ISSUED.

City Bonds	$250,000 00
Water Bonds	55,000 00

By authority of this Committee there was also borrowed on temporary loan the sum of $465,000.00. This amount was payable October 12, 13, 15, and 16, 1891.

President William A. Bancroft of the Board of Aldermen, President Edward C. Wheeler of the Common Council, and Councilman William R. Howland were appointed a sub-committee to count the cash in the City Treasury at the close of business, Monday, November 30. Their report is as follows:—

CITY OF CAMBRIDGE, December 22, 1891.

To the Committee on Finance: —

The sub-committee appointed to count and examine the cash in the hands of the Treasurer at the close of business on November 30, 1891, would respectfully report: —

Nov. 30, 1891. Actual cash in Treasurer's office was		$1,761 03
A certificate from W. A. Bullard, Cashier of First National Bank, showing a balance to the credit of the Treasurer of	$148,601 99	
From this balance should be deducted checks given by the Treasurer prior to November 30, but not received by the Bank, amounting to	402 50	
Leaving a balance in Bank, as shown by the Treasurer's books of		148,199 49
Making the total cash on hand		149,960 52
Dec. 22, 1891. After certain additional entries were made belonging to the financial year of 1891, your committee found receipts and expenditures as follows:		
Amount carried forward		$149,960 52

Amonut brought forwrad		$149,960 52

RECEIPTS.

From the Commonwealth—Corporation Tax . . .	$51,016 48	
" " " " —National Bank Tax . .	17,639 12	
" " " " —State Aid	12,298 50	
" " " " —Pauper Department . .	496 45	
Total		$81,450 55
Which amount added to the Treasurer's balance of November 30, 1891, makes a total of		231,411 07

EXPENDITURES.

Authorized additional payments as of November 30, and verified by the Auditor's books as follows: . .		
Pay-rolls for the last week of November	$7,580 52	
State Tax for 1891	46,440 00	
National Bank Tax-refunding of Taxes on non-resident owners	6,601 18	
Cemetery fund taken out for investment	1,419 75	
Surplus in running account of the Water Works paid to the Trustees of the Water Loan Sinking Fund	3,503 63	
		65,545 08
Showing a balance of cash in the Treasurer's hands as of November 30, 1891, of		$165,865 99

Your Committee would further state that we carefully examined the drafts made by the Mayor, during the year, on the Treasurer and found the amount in the aggregate to be $2,327,618.45. Both of said amounts are the amount named in the Treasurer's Report, and are also verified by the accounts on the Auditor's books.

Respectfully submitted,

WM. A. BANCROFT,
EDWD. C. WHEELER,
WILLIAM R. HOWLAND,
} *Sub-Committee.*

Following are the usual comparative tables representing the figures included in the assessors' warrant to the City Treasurer as of May 1, 1891, the items being a transcript from the books of the assessors : —

Polls and Valuation of Polls and Estates, May 1, 1889.

Wards.	Polls.	Valuation of Polls.	Personal.	Real Estate.	Total, Real and Personal	Dwellings.	Total Tax.
1.....	2,919	$5,838 00	$6,156,180	$12,983,800	$19,139,980	1,969	$312,077 68
2.....	5,199½	10,399 00	3,795,790	12,443,300	6,239,090	2,734	270,224 44
3.....	3,392	6,784 00	1,482,730	7,724,500	9,207,230	1,513	154,099 68
4.....	4,785½	9,571 00	2,070,200	10,398,100	12,468,300	2,705	209,063 80
5.....	1,962	3,924 00	1,344,800	6.733,400	8,078,200	1,301	133,175 20
Total...	18,258	$36,516 00	$14,849,700	$50,283,100	$65,132,800	10,222	$1,078,640 80

Polls and Valuation of Polls and Estates, May 1, 1890.

Wards.	Polls.	Valuation of Polls.	Personal.	Real Estate	Total, Real and Personal	Dwellings.	Total Tax.
1.....	2,994	$5,988 00	$6,208.885	$13,459,300	$19,668,185	2,057	$312,030 36
2.....	5,480½	10,961 00	3,936,580	12,812,900	16,749,480	2 823	267,119 24
3.....	3,450¼	6,900 50	1,602,660	7,958,800	9,561,460	1,543	153,588 86
4.....	5,041¾	10,083 50	2,340,200	10,917,000	13,257,200	2,799	216,895 82
5.....	2,143½	4,287 00	1,206,300	7,029,300	8,235,600	1,393	132,762 36
Total...	19,110	$38,220 00	$15,294,625	$52,177,300	$67,471,925	10,615	$1,082,396 64

Polls and Valuation of Polls and Estates, May 1, 1891.

Wards.	Polls.	Valuation of Polls.	Personal.	Real Estate.	Total, Real and Personal	Dwellings.	Total Tax.
1.....	3,298¼	$6.596 50	$6,272,760	$14,029,600	$20,302,360	2,146	$321,283 08
2.....	5,970½	11,941 00	4,349,810	13,180,500	17,530,310	2,897	283,660 80½
3.....	3,683¾	7,367 50	1,748,300	8,183,900	9,932,250	1,578	161,322 60
4.....	5,260½	10,521 00	2,808,400	11,268,900	14,077,300	2,864	228.719 15
5.....	2,435¼	4,870 50	1,266,000	7,473,500	8,739,500	1,447	140,322 75
Total...	20,648¼	$41,296 50	$16,445,270	$54,136,400	$70,581,670	10,932	$1,135,318 38½

N. B.—The amount of the non-resident Bank Tax and the tax upon supplementary warrants, are not included in the amounts stated as the total tax for the several years above mentioned. The valuation of the property assessed in the supplementary warrants for these years is not added to the total valuations as above given.

The valuation of estates in this city, for the years hereinbefore mentioned, are the same as originally made by the Board of Assessors, during those years, and the same figures were reported by that board to the Tax Commissioners for each of the years respectively. These valuations were subject to changes in each year, after such report was made, as shown by the following: —

Net valuations of estates in the City of Cambridge for the past three years, after adding the amounts of all supplementary warrants and deducting therefrom all abatements: —

Valuation for the year 1889	$63,980,131
Valuation for the year 1890	66,020,304
Valuation for the year 1891	69,731,722
Average net valuation per year for the three years before given	66,577,386

This last sum represents the amount upon which the limit of the rate of taxation, and also of municipal indebtedness is fixed under the provisions of Chapter 312 of the Acts of the year 1885.

Following is a statement showing the actual gain in the year 1891, in the polls, valuations and dwellings, after making the necessary corrections in the assessors' tables hereinbefore given.

The additions to the number of polls, subsequent to the assessors' warrants of May 1 were 69 at $2.00 each and 96 at 50 cents each, or 24 at $2.00, making 93, and giving a total of 20,731¼ polls.

Years.	Polls.	Valuation.	Dwellings.
1891	20,731¼	$69,717,022	10,932
1890	19,221¾	66,260,614	10,615
Increase	1,509½	$3,456,408	307

In the preparation of this report, it was the purpose of the Committee to give a brief review only of such financial transactions as were shaped mainly through its recommendations to

the City Council. The tabulations from the books of the assessors are such as have been given in the annual reports of the Committee on Finance for many years, and they are not elsewhere presented in any city report in a similar form.

WM. A. BANCROFT,
E. BURT PHILLIPS,
WILLIAM E. DOYLE,
EDWARD C. WHEELER,
HERBERT A. CHASE,
WILLIAM R. HOWLAND,
J. HENRY RUSSELL,
EDWARD A. COUNIHAN,
BANCROFT G. DAVIS,

Committee on Finance.

REPORT

OF THE

CITY TREASURER.

OFFICE OF CITY TREASURER, December 1, 1891.

To the Honorable the City Council:—

I HEREWITH submit the annual report of the City Treasurer for the year ending November 30, 1891.

Said report shows that the cash balance in the city treasury November 30, 1890, was	$96,971 89
That the amount received into the treasury during the year ending November 30, 1891, from all sources, was	2,396,512 55
	$2,493,484 44
The authorized payments during the year amounted to . . .	2,327,618 45
Leaving a balance in the treasury November 30, 1891, of . . .	165,865 99

Very respectfully,

WM. W. DALLINGER,
City Treasurer.

CITY OF CAMBRIDGE IN ACCOUNT CURRENT FROM DECEMBER 1, 1890, TO

Dr.

To authorized payments charged to City Accounts as follows:

Abatements (Taxes)	$19,719 39
Assessors' Department	9,057 57
Auditors' Department	2,870 82
Bridge (Harvard)	4,461 38
Bridges (West Boston, Craigie's and Prison Point)	8,547 90
Cambridge Cemetery	18,251 58
Cambridge Public Library	14,424 69
Cemetery Fund	1,419 75
City Clerk's Department	5,208 81
City Messenger's Department	2,367 40
City Treasurer's Department	11,202 41
Civil Service Department	205 04
Clerk of Committees' Department	3,216 57
Election Expenses and Registration of Voters	3,312 88
Executive Department	2,360 44
Engineering Department	9,576 19
Fire Department	67,748 55
Health Department	4,362 57
Incidental Expenses	10,267 25
Inspection of Milk and Vinegar	957 21
Inspection of Wires	6,276 78
Interest	127,180 58
Law Department	2,601 10
Lighting Streets	47,556 36
Loan "Temporary"	465,000 00
Loan "Water"	50,000 00
Pauper Department (Outside Aid)	30,274 24
Pauper Department (Almshouse)	21,234 79
Pauper Department (Farm and Ledge)	7,306 19
Pauper Department (House Offal)	18,621 45
Pauper Department (Salary Assistant City Physician)	1,500 00
Police Department	98,150 00
Public Property (City Buildings—Care and Repairs)	20,932 99
Public Property (Incidental Expenses)	2,491 93
Public Property (New City Hall, Furnishings)	11,157 64
Public Property (New Engine-House and Land in Ward 4)	12,772 01
Public Property (New High School-House)	62,592 11
Public Property (New Putnam School-House)	414 02
Public Property (New School-House Ward 4)	52,617 73
Public Property (School-Houses—Care and Repairs)	39,875 23
Salaries	2,291 68
School Department (Incidental Expenses)	699 50
School Department (Salaries)	200,848 45
School Department (Text-Books and Supplies)	15,003 38
Sealer of Weights and Measures	1,359 39
Sewers (Construction)	17,408 13
Sewers (Maintenance)	34,087 38
Sinking Funds	75,145 00
State Aid	22,536 00
Stationery and Printing	3,113 22
Street Department—Bridges (Rebuilding, Widening and Maintenance)	26,145 31
Street Department (Care and Maintenance, Belmont District)	10,691 19
Street Department (Extension and Widening Main Street)	2,990 00
Street Department (Extension and Widening Winsor Street)	2,400 00
Street Department (Filling and Grading Front Street)	50,486 39
Street Department (Maintenance)	111,944 12
Street Department (Paving)	31,810 88
Street Department (Paving Bridge Street)	85 50
Street Department (Paving Cambridge Street)	17,991 21
Street Department (Shade Trees and Public Grounds)	5,496 96
Street Department (Watering)	19,515 32
Tax (County)	49,851 13
Tax Lien Account	1,988 57
Tax (National Bank)	6,851 10
Tax Sale Surplus	429 19
Tax (State)	46,440 00
Water Works (Construction)	36,425 21
Water Works (Construction Fresh Pond Land Account)	23,624 78
Water Works (Construction Stony Brook Water Supply)	4,068 24
Water Works (Interest on Water Loan)	84,595 00
Water Works (Maintenance)	65,938 29
Water Works (Rates, Fines, etc.—Abatements)	3,088 90
Water Works (Rates, Fines, etc.—Refunds)	1,719 16
Water Works (Sinking Funds)	65,726 13
Water Works (Supplies)	6,697 89
Water Works (Supplies—Abatements)	32 30
Total Payments	$2,327,618 45
Cash balance in Treasury, November 30, 1891	165,865 99
	$2,493,484 44

NOVEMBER 30, 1891 (INCLUSIVE), WITH WM. W. DALLINGER, *City Treasurer.*

Cr.

By receipts as follows:

Betterments (Front Street)	$26 43
Bridge (Harvard)	52 50
Bridges (West Boston, Craigie's and Prison Point)	1,831 97
Cambridge Cemetery	17,531 52
Cambridge Public Library	4,447 80
Cemetery Fund	1,419 75
City Clerk's Department	2,231 62
City Treasurer's Department	1,579 55
City Lands	293 00
Engineering Department	86 40
Fire Department	157 40
Incidental Expenses	3,742 53
Inspection of Milk and Vinegar	132 00
Inspection of Wires	758 99
Interest	5,544 51
Law Department	1,500 00
Lighting Streets	125 65
Loan (Bridge)	15,000 00
Loan (Harvard Bridge)	60,000 00
Loan (High School)	110,000 00
Loan (School-House)	50,000 00
Loan (Sewer)	15,000 00
Loan (Temporary)	465,000 00
Loan (Water)	55,000 00
Pauper Department (Outside Aid)	3,246 26
Pauper Department (Almshouse)	2,311 60
Pauper Department (Farm and Ledge)	11,217 60
Pauper Department (House Offal)	7,716 77
Police Department	11,154 10
Public Property (City Buildings—Care and Repairs)	2,907 97
Public Property (New Engine House and Land in Ward 4)	26 30
Public Property (School-Houses—Care and Repairs)	47 37
School Department (Salaries)	1,427 33
School Department (Text Books and Supplies)	322 76
Sealer of Weights and Measures	467 79
Sewers (Construction)	10,213 04
Sewers (Maintenance)	1,440 17
State Aid	12,425 81
Stationery and Printing	576 62
Street Department (Maintenance)	2,673 65
Street Department (Paving)	9,536 89
Street Department (Shade Trees and Public Grounds)	126 13
Street Department (Watering)	13,977 80
Tax (Corporation)	59,000 30
Tax Lien Account	102 24
Tax (National Bank)	17,639 12
Tax Sale Surplus	3 00
Taxes—1887	200 40
Taxes—1888	160 00
Taxes—1889	2,826 50
Taxes—1890	89,611 40
Taxes—1891	1,028,251 30
Water Works (Construction)	616 00
Water Works (Construction Fresh Pond Land Account)	1,178 00
Water Works (Interest on Water Loan)	228 89
Water Works (Maintenance)	2,072 70
Water Works (Rates, Fines, etc.)	234,175 37
Water Works (Trustees of Sinking Funds)	50,000 00
Water Works (Supplies)	7,169 75
Total Receipts	$2,396,512 55
Cash balance in Treasury, November 30, 1890	96,971 89
	$2,493,484 44

WM. W. DALLINGER, *City Treasurer.*

REPORT

OF THE

COMMISSIONERS OF THE SINKINGS FUNDS OF THE CITY OF CAMBRIDGE.

To the Honorable the City Council : —

THE undersigned Commissioners of the Sinking Funds of the City, herewith present their sixteenth annual report for the year ending Nov. 30, 1891.

Dr.

Amount of the funds Nov. 30, 1890	$549,905 82	
Amount received from the City of Cambridge in the annual appropriation for 1891 derived from taxation.	74,805 00	
Amount of interest received on invested funds . . .	28,084 70	
		$652,795 52

Cr.

Amount paid as accrued interest on bonds purchased for investment	480 39	
Amount paid as premium on bonds purchased for investment	488 20	
Leaving the amount of the Funds Nov. 30, 1891 . . .	651,826 93	
		$652,795 52

SECURITIES BELONGING TO THE SINKING FUNDS NOV. 30, 1891.

Cambridge Water Loan, six per cent. bonds, maturing July 1, 1892	1,000 00
Cambridge City Loan, five per cent. bonds maturing Jan. 1, 1893	14,000 00
Cambridge Paving Loan, six per cent. bonds, maturing July 1, 1893	17,000 00
Cambridge Paving Loan, six per cent. bonds, maturing July 1, 1893	3,000 00
Cambridge Paving Loan, six per cent. bonds, maturing July 1, 1894	2,000 00
Amount carried forward	$37,000 00

Amount brought forward	$37,000 00	
Cambridge Sewer Loan, six per cent. bonds, maturing July 1, 1896	11,000 00	
Cambridge Street Widening Loan, six per cent. bonds, maturing July 1, 1904	90,000 00	
Cambridge Sewer Loan, six per cent. bonds, maturing July 1, 1904.	2,000 00	
Cambridge Street Widening Loan, six per cent. bonds maturing July 1, 1905	14,000 00	
Cambridge Sewer Loan, six per cent. bonds, maturing July 1, 1905	49,000 00	
		$203,000 00
Town of Brookline $3\frac{65}{100}$ per cent. bonds, maturing Feb. 1, 1892	$9,000 00	
Boston and Albany R. R. Co., seven per cent. bonds, maturing Feb. 1, 1892	56,000 00	
Boston and Lowell R. R. Co., seven per cent. bonds, maturing April 1, 1892	1,000 00	
Town of Hyde Park, four per cent. bonds, maturing Nov. 1, 1892	2,000 00	
Town of Brookline, $3\frac{65}{100}$ per cent. bonds, maturing Feb. 1, 1893	8,000 00	
City of Cleveland, four per cent. bonds, maturing April 1, 1893	2,000 00	
City of Fitchburg, six per cent. bonds, maturing July 1, 1893	2,000 00	
Town of Brookline, four per cent. bonds maturing July 1, 1893	3,000 00	
City of Brockton, four per cent. bonds, maturing July 1, 1893	2,500 00	
City of Cleveland, four per cent. bonds, maturing Oct. 1, 1893	3,000 00	
Town of Hyde Park, four per cent. bonds, maturing Nov. 1, 1893	2,000 00	
Town of Brookline, $3\frac{65}{100}$ per cent. bonds, maturing Feb. 1, 1894	7,000 00	
Town of Brookline, four per cent. bonds, maturing July 1, 1894	3,000 00	
City of Keene, N. H., four per cent. bonds, maturing July 1, 1894	2,000 00	
City of Brockton, four per cent. bonds, maturing July 1, 1894	2,500 00	
Town of Hyde Park, four per cent. bonds, maturing Nov. 1, 1894	2,000 00	
City of Fitchburg, four per cent. bonds, maturing Nov. 1, 1894	3,500 00	
Town of Brookline, $3\frac{65}{100}$ per cent. bonds, maturing Feb. 1, 1895	1,000 00	
Amounts carried forward	$111,500 00	$203,000 00

Amounts brought forward	$111,500 00	$203,000 00
City of Brockton, four per cent. bonds, maturing July 1, 1895	2,500 00	
City of Keene, N. H., four per cent. bonds, maturing July 1, 1895	1,000 00	
City of Dayton, four per cent. bonds, maturing Oct. 1, 1895	7,000 00	
Town of Hyde Park, four per cent. bonds, maturing Nov. 1, 1895	2,000 00	
City of Dayton, four per cent. bonds, maturing Oct. 1, 1896	7,000 00	
Town of Hyde Park, four per cent. bonds, maturing Nov. 1, 1896	2,000 00	
City of Fitchburg, four per cent. bonds, maturing Nov. 1, 1896	2,000 00	
City of Waltham, four per cent. bonds, maturing Jan. 1, 1897	6,000 00	
City of New Bedford $3\frac{1}{2}$ registered bond, maturing April 1, 1897	15,000 00	
City of Dayton, four per cent. bonds, maturing Oct. 1, 1897	7,000 00	
Town of Hyde Park four per cent. bonds, maturing Nov. 1, 1897	2,000 00	
City of Fitchburg, $3\frac{1}{2}$ per cent. registered bond, maturing April 1, 1898	10,000 00	
City of Cleveland, four per cent. bonds, maturing Sept. 1, 1898	1,000 00	
City of Dayton, four per cent. bonds, maturing Oct. 1, 1898	4,000 00	
City of Providence, $4\frac{1}{2}$ per cent. bonds, maturing June 1, 1899	64,000 00	
City of Cleveland $3\frac{65}{100}$ per cent. bonds, maturing Sept. 1, 1902	1,000 00	
City of Lawrence, four per cent. bonds, maturing July 1, 1904	12,000 00	
City of Pawtucket, four per cent. bonds, maturing July 1, 1904	15,000 00	
Town of Hopkinton, four per cent. bonds, maturing Sept. 30, 1904	5,000 00	
City of Pawtucket, four per cent. bonds, maturing July 1, 1909	30,000 00	
Town of Beverly, four per cent. bonds, maturing July 1, 1911	9,000 00	
City of Brockton, $3\frac{1}{2}$ per cent. bonds, maturing July 1, 1916	5,000 00	
		$321,000 00
		524,000 00
Cash in Bank on interest		127,826 93
		$651,826 93

The bonded city debt, which the foregoing sinking funds are expected to pay, matures as follows, viz :—

Jan. 1, 1893, City Loan bonds, five per cent. gold	$150,000 00
July 1, 1893, Land Loan bonds, six per cent.	10,000 00
July 1, 1893, Paving Loan bonds, six per cent.	100,000 00
July 1, 1893. Street Loan bonds, six per cent.	13,000 00
July 1, 1894, Paving Loan bonds, six per cent.	130,000 00
April 1, 1895, Municipal Loan bonds four per cent.	200,000 00
July 1, 1895, Paving Loan bonds, six per cent.	25,000 00
Oct. 1, 1895, Sewer Loan bonds, six per cent,	20,000 00
July 1, 1896, Sewer Loan bonds, six per cent.	29,000 00
Nov. 1, 1896, Sewer Loan bonds, six per cent.	25,000 00
Aug. 1, 1898, City Hall Land Loan bonds, four per cent.	83,000 00
Nov. 1, 1899, Street Widening Loan bonds, four per cent.	8,000 00
May, 1900, High School Loan bonds, four per cent.	100,000 00
Jan. 1, 1901, High School Loan bonds, four per cent.	100,000 00
July 1, 1901, High School Loan bonds, four per cent.	10,000 00
July 1, 1901, School House Loan bonds, four per cent.	50,000 00
July 1, 1901, Bridge Loan bonds, four per cent.	15,000 00
July 1, 1903, Sewer Loan bonds, six per cent.	136,000 00
July 1, 1903, Street Widening Loan bonds, six per cent.	10,000 00
July 1, 1904, Sewer Loan bonds, six per cent.	295,000 00
July 1, 1904, Street Widening Loan bonds, six per cent.	90,000 00
July 1, 1905, Sewer Loan bonds, six per cent.	144,000 00
July 1, 1905, Street Widening Loan bonds, six per cent.	14,000 00
Aug. 1, 1905, Cambridge Cemetery (Extension Loan) } bond, four per cent.	65,000 00
Nov. 1, 1907, Sewer Loan bonds, four per cent.	30,000 00
Nov. 1, 1909, Sewer Loan bonds, four per cent.	22,000 00
May 1, 1910, Sewer Loan bonds, four per cent.	15,000 00
July 1, 1911, Sewer Loan bonds, four per cent.	15,000 00
Oct. 1, 1917, Harvard Bridge Loan bond, four per cent.	10,000 00
July 1, 1918, Harvard Bridge Loan bonds, four per cent.	100,000 00
Sept. 1, 1918, Harvard Bridge Loan bonds, four per cent.	50,000 00
Sept. 1, 1918, Harvard Bridge Loan (Front street extension) } bonds four per cent.	50,000 00
March 1, 1919, Harvard Bridge Loan bonds, four per cent.	90,000 00
March 1, 1919, Harvard Bridge Loan (Front street) } bonds, four per cent.	25,000 00
Nov. 1, 1920, Harvard Bridge Loan bond, four per cent.	5,000 00
July 1, 1921, Harvard Bridge Loan (Front street) } bonds, four per cent.	60,000 00
	$2,294,000 00

CAMBRIDGE, Dec. 4, 1891.

To the Commissioners of the Sinking Funds of the City of Cambridge :

We have carefully audited the books and accounts of the Treasurer of the Funds, and find every item of receipts and pay-

ments, cash, bonds interest and premium, properly vouched for and absolutely correct. The present amount of the fund is:

Bonds	$524,000 00
Cashier's Certificate of Deposit in First National Bank of Cambridgeport	127,826 93
	$651,826 93

FRANK A. ALLEN, } *Auditing*
JOHN C. BULLARD, } *Committee.*

No portion of the City Debt proper became due this year, nor will any mature until 1893. Bonds of the City (four per cents.) have been issued during the year, to the amount of $250,000.00, for the following purposes, viz:—

For the new High School building $100,000.00, dated January 1, 1891, and $10,000.00 dated July 1, 1891, payable in ten years. For the new school-house in Ward 4, $50,000.00, dated July 1, 1891, payable in ten years. For the widening of Bridges, $15,000.00, dated July 1, 1891, payable in ten years. For Sewer Loan $15,000.00, dated July 1, 1891, payable in twenty years, and for the Harvard Bridge $60,000.00, dated July 1, 1891, payable in thirty years. The total funded debt of the city now outstanding is $2,294,000.00, from which deducting the present amount of the Sinking Fund assets at the par, $651,826.93, leaves the net debt liability November 30, 1891 (exclusive of the Water Debt), $1,642,173.07, being a net increase for the year of $148,078.89. The assessors' valuation of the city for 1891 is $70,581,670.00, showing a gain for the year over 1890, of $3,109,745.00. The fund has increased since our last report $101,121.11.

Respectfully submitted,

CHARLES H. SAUNDERS,
JOS. A. HOLMES,
FRANK A. ALLEN,
GEO. H. HOWARD,
ANDREW J. LOVELL,
JOHN C. BULLARD,
} *Commissioners of the Sinking Funds of the City of Cambridge*

REPORT

OF THE

TRUSTEES OF THE SINKING FUND OF THE CAMBRIDGE WATER WORKS.

To the Honorable the City Council: —

THE undersigned Trustees of the Sinking Fund of the Cambridge Water Works herewith submit their annual report of the fund committed by law to their charge.

Dr.

The amount of the fund at the last report, November 30, 1890, was	$765,754 67	
Amount received from the City Treasurer of Cambridge, the same being a part of the annual Water rates and equal to three and one-half per cent. on the total amount of outstanding Water loan bonds	62,002 50	
Amount received as *surplus* in the running accounts of the Water Werks for the year ending Nov. 30, 1891.	3,503 63	
Amount of interest received on investments	33,228 65	
		$864,489 45

Cr.

Amount paid the City Treasurer of Cambridge to pay the Water loan bonds which matured July 1, 1891	$50,000 00	
Amount paid as accrued interest on bonds purchased for investment	58 00	
Amount paid as premium on bonds purchased for investment	112 00	
Balance representing the amount of the fund November 30, 1891, all securities estimated at their par value	814,319 45	
		$864.489 45

SECURITIES BELONGING TO THE SINKING FUND OF THE WATER WORKS NOVEMBER 30, 1891.

Cambridge Water Loan, six per cent. bonds, maturing July 1, 1892	$14,000 00	
Cambridge Water Loan, four per cent. bonds, maturing Nov. 1, 1894	6,000 00	
Cambridge Water Loan, six per cent. bonds maturing April 1, 1895	37,000 00	
Cambridge Water Loan, $3\frac{1}{2}$ per cent. registered bonds maturing after April 1, 1896	100,000 00	
Cambridge Water Loan, $3\frac{1}{2}$ per cent. registered bonds maturing after July 1, 1896	75,000 00	
Cambridge Water Loan, six per cent. bonds maturing July 1, 1896	46,000 00	
Cambridge Water Loan, six per cent. bonds maturing July 1, 1897	16,000 00	
Cambridge Water Loan, five per cent. bonds, maturing July 1, 1898	12,500 00	
Cambridge Contingent Loan, four per cent. note, dated Dec. 1, 1883	200,000 00	
Harvard Bridge Loan, four per cent. bond maturing Nov. 1, 1920	5,000 00	
		$511,500 00
City of Salem, four per cent. bonds, maturing July 1, 1892	17,000 00	
Town of Arlington, five per cent. bonds, maturing July 1, 1898	12,000 00	
City of Boston, four per cent. bonds, maturing Jan. 1, 1899	50,000 00	
City of Lynn, four per cent. bonds, maturing July 1, 1899	11,000 00	
City of Boston, four per cent. bonds, maturing April 1, 1900	4,000 00	
City of Cleveland, O., $3\frac{65}{100}$ per cent. bonds, maturing Sept. 1, 1902	3,000 00	
City of Providence, five per cent. bonds, maturing July 1, 1906	50,000 00	
Town of Winchester, four per cent. bonds, maturing May 1, 1908	10,000 00	
		157,000 00
		668,500 00
Cash in Bank on interest		145,819 45
		$814,319 45

The bonded water debt which the foregoing fund is expected to pay, matures as follows, viz: —

July 1, 1892, six per cent. coupon	335,000 00
April 1, 1894, six per cent. coupon	150,000 00
Nov. 1, 1894, four per cent. coupon	36,000 00
April 1, 1895, six per cent. coupon	160,000 00
April 1, 1896, 3½ per cent. registered (or to April 1, 1911)	100,000 00
July 1, 1896 six per cent. coupon	103,000 00
July 1, 1896, 3½ per cent. registered (or to July 1, 1911)	75,000 00
July 1, 1897, six per cent. coupon	16,000 00
July 1, 1898, five per cent. registered	12,500 00
Nov. 1, 1906, 3½ per cent. registered	43,000 00
Oct. 1, 1907, four per cent. registered	75,000 00
Oct. 1, 1907, four per cent. registered	15,000 00
Nov. 1, 1907, four per cent. registered	22,000 00
July 1, 1908, four per cent. coupon	46,000 00
Aug. 1, 1908, four per cent. coupon	25,000 00
Nov. 1, 1909, four per cent. coupon	20,000 00
May 1, 1910, four per cent. registered	133,000 00
May 1, 1910, four per cent. coupon	155,000 00
July 1, 1910, four per cent. coupon	75,000 00
Sept. 1, 1910, four per cent. coupon	125,000 00
Jan. 1, 1911, four per cent. coupon	20,000 00
Oct. 1, 1911, four per cent. coupon	35,000 00
	$1,776,500 00

The work of the year suggests very little for comment; $50,000 of the water debt has matured and been paid from this fund and the fund is larger than at our last report by $48,564.78. The City Council has authorized the issue of 55,000 of water bonds during the year so that the gross bonded debt is 5,000.00 larger or $1,776,500.00.

ALPHEUS B. ALGER,
EDWD. C. WHEELER,
WM. W. DALLINGER,
Trustees of the Sinking Fund of the Cambridge Water Works.

REPORT

OF THE

TRUSTEES OF THE DOWSE INSTITUTE.

CAMBRIDGE, December 22, 1891.

To the Honorable City Council of Cambridge:—

THE Board of Trustees of the Dowse Institute respectfully reports that a course of five lectures with two readings and a concert was given in Union Hall, Cambridgeport, beginning November 4, 1890, and ending December 30, 1890.

An attested copy of the accounts of the Treasurer is herewith transmitted, showing the amount of receipts and expenditures.

W. W. WELLINGTON,
W. A. BULLARD,
FRANK A. ALLEN,
ALPHEUS B. ALGER,
EDWD. C. WHEELER,
} *Board of Trustees.*

W. A. BULLARD, TREASURER, IN ACCOUNT WITH THE DOWSE INSTITUTE.

Dr.

To balance from last account	$454 39	
City of Cambridge, one year's interest on fund . . .	600 00	
Tickets to the course of entertainments sold	754 50	
		$1,808 89

Cr.

By Rev. Lyman Abbott, for a lecture	$100 00	
George Riddle and Listemann Club, for a reading	200 00	
Prof. J. W. Churchill, for a reading	100 00	
E. C. Bolles, for a lecture	100 00	
H. H. Ragan, for a lecture	100 00	
Rev. Reuen Thomas, for a lecture	25 00	
Rev. James Kay Applebee, for a lecture	25 00	
Miss Mary Howe and Beethoven Club, for a concert	313 00	
Cambridge *Tribune*, for advertising	18 00	
Cambridge *Press*, for advertising	18 00	
Cambridge *Chronicle*, for advertising	28 00	
Cambridge *News*, for advertising	18 00	
Envelopes addressed and stamped	20 25	
F. M. Buffum, distributing circulars	13 75	
G. E. French, distributing circulars	1 65	
F. L. Beunke, for distributing circulars	1 80	
John Ford & Son, printing	81 25	
Harvard Printing Co., printing.	2 00	
C. L. Russell, doorkeeper	8 00	
F. M. Buffum, doorkeeper	8 00	
Albert Buffum, doorkeeper	8 00	
A. B. Bullard, ticket seller	8 00	
Union Hall Association, rent of hall	320 00	
Balance	291 19	
		$1,808 89

ATTEST, W. A. BULLARD, *Treasurer.*

REPORT

OF THE

TRUSTEES OF THE BRIDGE CHARITABLE FUND.

THE Trustees of the Bridge Charitable Fund herewith submit the fifteenth annual report concerning the fund.

The amount on deposit to the credit of the fund Nov. 30, 1890, was,	$2,657 71
Interest added to July 19, 1891	107 34
Total	$2,765 05
The following sum has been withdrawn and paid to the Overseers of the Poor	$418 31
Net amount belonging to the fund as of July 19, 1891	$2,346 74

The Bridge Charitable Fund was established under the will of Levi Bridge, who died in Cambridge in the year 1876. The sum bequeathed to the City for this purpose by Mr. Bridge, was $733.95.

It is provided in the will that this sum shall be "received by said city and known as the "Bridge Charitable Fund," to be forever held by said city upon this further trust: to add the interest of said fund to the principal, until such time as said fund by the accruing of interest, or by gifts from other philanthropic persons, shall amount to Two Thousand Dollars, after which time one-third part of the interest of said fund shall be added to the principal annually forever, and the remaining two thirds shall be paid over annually to the Overseers of the Poor for the time being, to be by them expended for the deserving poor of the City of Cambridge, in such manner as they shall deem best." The money given to the city under the foregoing provisions was not paid into the treasury until January 4, 1877, when by interest accumulations, it had increased to the sum of

$891.33. In October a communication was received by Hon. Frank A. Allen, then Mayor, from Mr. Samuel J. Bridge of Boston, in which the latter gave to the city a sum equal to the amount of the original bequest, and its accumulated interest, viz., the sum of $891.33. Accompanying the communication was a deposit book of the Suffolk Savings Bank for the sum before stated. In January, 1878, the amount of the fund had increased to the sum of $1,824.21, and in January, 1882, the amount was $2,137.27. The first payment of interest to the Overseers of the Poor under the terms of the will of Levi Bridge, was authorized by vote of the Trustees passed January 30, 1885, and the sum of $275.17 was withdrawn from the fund in the month of April, 1885. Since that date no payment has been made to the Overseers of the Poor until the present year. The following statement shows the amount which was due to the Overseers of the Poor from this fund, up to July 19, 1891:

Amount of fund on deposit Nov. 30, 1891	$2,765 05
Amount belonging to fund January, 1885	2,137 59
Interest accumulation to July 19, 1891	627 46
One third to be added to fund as of July 19, 1891	209 15
	$418 31

As before stated this latter sum has been paid over to the Overseers of the Poor.

Further information concerning this fund may be obtained from former City Documents, and the records of the Trustees, and those interested are referred to these sources.

ALPHEUS B. ALGER,
EDWARD C. WHEELER,
JOHN E. PARRY,
Trustees.

REPORT

OF THE

TRUSTEES OF THE SANDERS TEMPERANCE FUND.

THE twenty-sixth annual report concerning this fund is herewith submitted.

The amount of the fund is $10,000, and it was bequeathed to the city by Charles Sanders, who had been for several years a resident here. The purpose of the bequest as set forth in the will was that "some worthy man who has discretion and zeal for the cause, be constantly employed as a missionary in the cause of temperance, in reforming old drunkards and preventing young drunkards, and abolishing as far as possible the use of all intoxicating articles." The interest on the fund to be paid quarterly to the person so employed in the place "as long as the vice of drunkenness there exists."

The present Board of Trustees has complied with the terms of the bequest, in reference to the appointment of a temperance missionary, and has continued in service Mr. Alonzo Stewart the venerable missionary heretofore appointed. His own report, which is supplementary to this, recites what he has done during the past year, toward carrying out the intent of the donor of the fund.

ALPHEUS B. ALGER,
WM. A. BANCROFT,
EDWARD C. WHEELER,
J. HENRY RUSSELL,
ANDREW J. JONES,
} *Trustees.*

REPORT

OF

SANDERS TEMPERANCE FUND MISSIONARY.

To the Trustees of the Sanders Temperance Fund : —

GENTLEMEN: It not easy to give variety to my annual report, as the work and its results vary little from year to year.

The sinning and the suffering in our midst never lessen, and it requires constant watchfulness and earnest labor to hinder the evil from overcoming the good.

In all my efforts to assist the drunkard, and his innocent victims, I have ever tried to keep in mind the fearful thought that eternity will reveal with startling faithfulness, all the evils arising from neglected duty.

There are many things in connection with my work which are extremely disheartening; and very often am I forced to feel that the hand of man is powerless to restrain the tide of intemperance that is sweeping over our city; but there is "One who is mighty to save," and to Him must we look in our weakness.

The closing of the saloons in Cambridge has done much, VERY much, for those just entering the path of sin, and for the young, and for the weak who cannot resist temptation when it is ever before them in the form of the well warmed and brilliantly lighted barroom.

Those who are old in sin and have became slaves to the demon Intemperance can too easily satisfy their appetites in our neighboring city. While this is the case our vigilance must be unabated, and our efforts untiring.

I can easily tell of the seed sown; sown in great weakness, and sown prayerfully — but of the results, I can say little. In

some cases the seed has sprung up, and borne good fruit in the form of a saved father or mother, and a happy family.

I have been greatly aided in my work by the Chief of Police and his associates.

Our lamented Judge Sanger, though desirous of administering justice strictly, was yet ever ready to listen to extenuating circumstances which would allow the showing of mercy to the victims of intemperance.

In accordance with the requirements of the "Sanders Fund" bequest, I have attended the daily sessions of the Police Court, have had personal conversation with 1600 persons brought before the Court for drunkenness and kindred vices, and to many of them have given the pledge of total abstinence.

I have visited the House of Correction on Sabbath mornings and have distributed to the inmates, 116,184 pages of temperance and religious literature.

Indeed, I have done all in my power in connection with the clergymen, and other earnest workers in our city, to promote the cause of temperance.

May God speed the day when our city and our land shall be free from the curse of rum, and its train of evils.

Respectfully submitted,

ALONZO STEWART.

Sanders Temperance Fund Missionary.

December 28, 1891.

REPORT

OF THE

OVERSEERS OF THE POOR.

CENTRAL SQUARE BUILDING,
CAMBRIDGEPORT, December 28, 1891

To the Honorable the City Council of the City of Cambridge:—

GENTLEMEN: The Overseers of the Poor herewith present their fourteenth annual report, under the Act of May 7, 1877.

The membership of the Board has continued unbroken during the past year. In the month of April last, Mr. Charles Walker was reëlected by the City Council, for a term of five years.

This Board, in addition to administering the public charities of the city, and maintaining an Almshouse, carries on a large farm, works a ledge, and conducts a truant school. To still further vary our duties and fully test our charitable capacity, the work of collecting and disposing of House Offal is given us as a department of the Almshouse.

Although we are sometimes called the Overseers of the Poor we are often designated as "The Pauper Department." A city ordinance relating to the keeping of the city accounts, classed our varied work under that reproachful name. There is danger that this last designation may cling to us.

If the municipal corporation has a soul or heart, as distinguished from its intelligence and physical force that is, or ought to be, represented by the Overseers of the Poor. Under the technicalities of the law, all the poor and unfortunate whom we aid may be paupers. We have to do with some disreputable persons who are notorious paupers. A large part of our charitable work, however, is among people of good character and respectable standing, who would not, in the popular sense, be deemed paupers, but worthy poor.

There is something in a name. The legislation in aid of our soldiers has carefully provided against the stigma of pauperism

in their cases. There is no sentiment in book-keeping and it may be claimed that little harm is done in calling us "The Pauper Department" in the Auditor's and Treasurer's books. Still even there, and especially to the public generally, we should prefer to be known as the Overseers of the Poor.

There are some wants of this Board which the experience of the past year has emphasized:

First. A safe. This is the same safe which this department has been wanting for years. It is a large safe, which would protect from fire the histories, documents and books relating to "settlements," the result of years of labor, and the loss of which would cost the city thousands of dollars. These documents contain the facts of settlement of about twenty-three thousand persons who have been the recipients of relief from the city during the past fourteen years, and if destroyed, could never be replaced.

We respectfully reiterate the request made in former years.

Second. We believe that under existing circumstances, the best way would be not to bring a safe to us, but for us to go to a safe and at the same time satisfy a second need, by having assigned to this department offices in the old city hall building. There proper vaults already exist. It is doubtful if a suitable safe could be placed in our present rooms. In the Central Square building, the police department is good-naturedly crowding us. Inasmuch as in the struggle for the new City Hall, we lost the rooms which were originally designed for us, we are now questioning our ability to resist the Police and stay where we are. We are of the opinion that the old city hall building, under some other name, will ultimately have to be devoted to city uses, and we respectfully suggest that proper rooms with suitable safes be assigned to us in that building.

Third. This department has of late years kept so well within its appropriations, that the amount allowed to it has been gradually pared down until the sum for the past year was hardly sufficient to carry us through.

An unexpended balance is a reward of merit worth working for. We should like the privilege of that reward, while providing satisfactorily and economically for the demands on us We found during the last year, that we were put into too strait

a jacket financially, and we respectfully suggest that we be permitted to work for a balance unexpended rather than for a deficit.

Fourth. In our charitable work we meet many cases where aid is needed and the persons have such self-respect or delicacy, that they suffer rather than become technical "paupers." These are usually instances where the persons are so intelligent that they can understand and appreciate the provisions of the law and statutes. The stronger the intelligence, the greater the delicacy. Had the Overseers a fund sufficiently large at their disposal, contributed from private sources and not raised by taxation, they could do much good. This Board is often brought more quickly and directly in contact with misfortune than officers of private charities, andwhile it is not advisable to displace in the least the admirable work of the private and other charities of the city, yet their work could be supplemented to advantage if the Overseers could use at times such a fund.

The Bridge Charitable Fund, established by the will of Levi Bridge, who died in 1876, and which now amounts to some two thousand dollars is of this character. But only a portion of the income of this fund is at the disposal of the Overseers. The accumulated interest under our control has not yet reached an amount from which much aid can yet be given.

We recommend to benevolently disposed citizens that gifts or bequests to the city to be administered by the Overseers of the Poor would save a great deal of actual as well as legal pauperism.

The Secretary of the Board, Mr. David P. Muzzey, with his accustomed diligence and accuracy has compiled the appended tables showing the expenditures and receipts for relief outside of the Almshouse, for support of Almshouse, for carrying on of the farm and ledge, and for the collection and sale of house offal, from which it appears that

Expenditures for Outside Aid were	$33,496 53
Receipts	3,246 26
Net cost	$30,250 27
Expenditures for Almshouse, farm, and ledge were	$29,393 44
Receipts	13,529 20
Net cost	$15,864 24

Expenditures, exclusive of House Offal	$ 62,889 97
Receipts	16,775 46
Net cost of care of poor	$46,111 51
Expenditures for collection of House Offal	$18,714 62
Receipts	7,716 77
Net cost of collection	$10, 997 85

The number of persons at institutions, for whose support the city is holden, has been as follows :—

City Almshouse	239
State Lunatic Hospitals	140
State Almshouse	4
Middlesex House of Correction	10
Massachusetts School for Feeble-Minded	6
	399
Number of insane in families	3
	402

The insane hospital cases include 15 at the Danvers Lunatic Hospital, 66 at the Worcester Lunatic Hospital, 25 at the Worcester Insane Asylum, 5 at the Taunton Lunatic Hospital, 1 at Northhampton Lunatic Hospital, 20 at the Westboro Lunatic Hospital, 3 in the insane ward at the State Almshouse at Tewksbury, 5 in the insane ward at the State Farm at Bridgewater. One insane man and two insane women have been boarded out in families under the supervision of the State Board of Lunacy and Charity. There have been 27 mildly insane cases at the Almshouse in addition to the number at the lunatic hospitals cared for by the Overseers which has reduced the expense to a large extent.

It will be observed that the amount paid to the State Lunatic Hospitals has been $17,295.31 an increase of $1,937.23 over the previous year, and embraces more than half of the entire expenditure for the poor outside of the Almshouse. The relatives of insane, and other persons supported by the city have paid $929.70 into the city treasury. Other cities and towns have re-imbursed the city to the amount of $1,148.87 for aid rendered their poor living in Cambridge. The State Treasurer has paid $1,167.69 for the support of cases having no settlement which were aided from the office of the Board.

The experienced and efficient visitor, Mr. Vespasian Danforth,

has taken the histories of 528 new applicants for relief, and revised 61 histories during the year. He has also visited the families and examined the tax records, as appears by his report which is herewith appended.

Dr. Lewis L. Bryant, the Assistant City Physician, has performed his duties with much kindness to the poor and devotion to the interest of the city. For details of his work we refer to his report.

This Board is pleased to commend Capt. Martin L. Eldridge, the superintendent of the Almshouse and his wife, Harmony P. Eldridge, the matron, for their continued efficient care of the institution.

We refer to the accompanying report of the Superintendent for the particulars respecting the Almshouse, the Farm, the Ledge, the House offal, and the Truant School. We call attention to his statement relating to the need of more room for the regular inmates of the Almshouse and the remedy which he suggests by the removal of the truant school, which recommendation we heartily approve.

Rev. F. W. Holland has officiated as Chaplain, and Miss Alice Fawcett has had charge of the Almhouse school.

The boys have worked in the chair shop with increased interest, and the revenue is somewhat larger than the previous year.

Whenever we visit the Almshouse we are impressed by the deplorable state of the road-bed and sidewalks of its approach, Tannery street. The malodorous fumes from certain establishments, on or near Tannery street, are also quite impressive. This last evil is, however, shared by the inmates of the Almshouse in common with the whole neighborhood.

We look forward to the time when the neighborhood will demand a more salubrious atmosphere, and then the Almshouse will share in the increased healthfulness of that part of Cambridge.

Respectfully submitted,

ALPHEUS B. ALGER,
CHAS. E. VAUGHAN,
CHARLES BULLOCK,
CHARLES WALKER,
STEPHEN ANDERSON,
WM. W. BURRAGE,
Overseers of the Poor.

REPORT

OF THE

SUPERINTENDENT OF THE ALMSHOUSE

CAMBRIDGE, December 1, 1891.

To the Overseers of the Poor:—

GENTLEMEN: The annual report of the Almshouse for the year ending November 30, 1891, is herewith respectfully submitted.

The whole number in the Almshouse during the year has been as follows:

Males	143
Females	96
Total	239
Adults	166
Minors	73
Whole number in the Almshouse Nov. 30, 1891	133
Average number during the year	137

The whole number in the Almshouse for six years ending November 30, 1891, is as follows:—

Men	379
Women	244
Boys	237
Girls	96
Total	956

Included in the whole number in the Almshouse November 30, 1891, there are:—

INSANE OR DEMENTED.

Males	7
Females	19
Total	26

IDIOTIC OR IMBECILE.

Males	1
Females	4
Total	5

EPILEPTICS.

Males	1
Females	1
Total	2

BLIND.

Males	5
Females	2
Total	7

Included in the whole number discharged during the year are the following:—

To Carney Hospital	2
To Cottage Hospital, Baldswinsville	1
To Boston Almshouse	1
To Industrial School, Lawrence	1
To Insane Asylum, Worcester	5
To Marcella Street Home, Boston	1
To State Almshouse, Tewksbury	1
To State Home, Boston Highlands	1
To Whitfield Home, Cambridge	1

Remaining in the Almshouse, November 30, 1891:—

Males	74
Females	59
Total	133
Adults	95
Minors—Boys, 28; girls, 10	38

Whole number of children attending school November 30, 1891:—

Boys	29
Girls	4
Total	33
Total during the year	58

Of the boys remaining November 30, 1891, there are:—

Dependent children	3
Neglected children	6
Truant children	19
Total	28

Of the girls there are:—

Dependent children	8
Neglected children	2
Total	10

The following tables will show the changes in population, the deaths, the farm products, and the financial receipts for eleven years ending November 30, 1891:—

Table I.

Showing the number and sex of adult persons and minors of all classes received into the Almshouse in each month of the year ending November 30, 1891.

Months.	Adults.		Minors.		Total.	Dependent Children.		Neglected Children.		Truant Children.	
1890	*M.*	*F.*	*M.*	*F.*		*M.*	*F.*	*M.*	*F.*	*M.*	*F.*
December	9	5	3	1	18	1	0	1	1	1	0
1891											
January	2	1	4	2	9	3	2	0	0	1	0
February	4	0	1	0	5	0	0	0	0	1	0
March	3	3	1	1	8	0	1	0	0	1	0
April	0	0	4	0	4	2	0	1	0	1	0
May	5	2	1	1	9	0	1	0	0	1	0
June	3	3	4	0	10	1	0	1	0	2	0
July	2	9	4	4	19	4	4	0	0	0	0
August	5	1	0	0	6	0	0	0	0	0	0
September	6	1	1	1	9	0	1	0	0	1	0
October	2	0	4	0	6	0	0	3	0	1	0
November	4	2	1	1	8	0	1	0	0	1	0
Totals	45	27	28	11	111	11	10	6	1	11	0

Table II.

Showing the number and sex of adult persons and minors of all classes discharged from the Almshouse in each month of the year ending November 30, 1891.

Months.	Adults.		Minors.		Total.	Dependent Children.		Neglected Children.		Truant Children.	
1890.	*M.*	*F.*	*M.*	*F.*		*M.*	*F.*	*M.*	*F.*	*M.*	*F.*
December.....	1	5	2	0	8	1	0	1	0	0	0
1891											
January.....	2	0	1	1	4	1	1	0	0	0	0
February.....	3	2	4	2	11	3	2	0	0	1	0
March.....	4	2	3	1	10	1	1	2	0	0	0
April..... ...	10	2	2	0	14	1	0	0	0	1	0
May.....	5	1	1	1	8	1	1	0	0	0	0
June.....	8	0	0	0	8	0	0	0	0	0	0
July.....	1	4	5	0	10	5	0	0	0	0	0
August.....	2	3	0	2	7	0	2	0	0	0	0
September.....	2	4	2	0	8	0	0	0	0	2	0
October.....	2	0	3	3	8	0	2	0	1	3	0
November.....	5	3	1	1	10	0	1	0	0	1	0
Totals.....	45	26	24	11	106	13	10	3	1	8	0

Table III.

Showing the name, age, time of admission, date and cause of death of each person who has died in the Almshouse during the year ending November 30, 1891.

Names.	Age.	Date of Admission.	Date of Death.	Cause of Death.
Nellie J. Flanagan.....	20	Nov. 28, 1890	Dec. 3, 1890	Consumption.
William B. Robinson.....	68	May 6, 1884	Jan. 2, 1891	Gangrene.
Julia Hickey.....	69	April 28, 1888	Feb. 4, 1891	Consumption.
Charles Pryor.....	11	July 1, 1889	Mar. 14, 1891	Heart disease.
Thomas B. Clarkson.....	36	Mar. 7, 1891	Mar. 30, 1891	Consumption.
Phœbe A. Johnson.....	60	Mar. 30, 1891	April 5, 1891	Bright's disease.
Thomas Meehan.....	53	April 23, 1888	April 17, 1891	Tumor of the liver.
Christian Lvick.....	73	June 19, 1888	May 6, 1891	Apoplexy.
Maurice O'Connor.....	78	Jan. 28, 1891	June 20, 1891	Cancer.
Hannah Brigadier.....	56	June 8, 1891	July 5, 1891	Consumption.
Dennis Keefe.....	64	April 9, 1889	Sept. 10, 1891	Consumption.
Ellen Doherty.....	89	May 29, 1891	Sept. 13, 1891	Chronic dementia.
Mary Condry.....	84	Oct. 13, 1885	Sept. 24, 1891	Chronic dementia.
Catharine Doherty.....	78	April 13, 1889	Sept. 29, 1891	Chronic nephritis.
Mary Clark.....	73	Dec. 21, 1876	Nov. 2, 1891	Cancer.
John Gallivan.....	71	Mar. 30, 1885	Nov. 14, 1891	Chronic dementia.
Bridget Dooris.....	38	Sept. 30, 1891	Nov. 17, 1891	Cancer.
Rosa Carlin.....	54	May 3, 1878	Nov. 26, 1891	Pulmonary apoplexy.
Thomas J. Hicks.....	78	Sept. 16, 1889	Nov. 30, 1891	Chronic dementia.

Products of the Farm.

10 barrels apples	$20 00
170 bushels beans	170 00
350 bushels beets	210 00
100 bushels beet greens	20 00
13,000 cabbages	550 00
50 bushels carrots	35 00
300 boxes celery	900 00
22,000 cucumbers	500 00
3 cows for beef	130 00
370 bushels dandelion greens	350 00
4 tons hay and straw	80 00
200 dozen green corn	20 00
20 bushels rye	18 00
500 dozen hot-bed lettuce	100 00
700 dozen outdoor lettuce	120 00
320 bushels onions	220 00
380 bushels parsnips	340 00
200 bushels peas	165 00
6,290 lbs. pork	426 16
250 bushels potatoes	250 00
1,500 pounds rhubarb	40 00
180 dozen radishes	100 00
400 bunches spinach	100 00
20 tons squash	250 00
700 bushels tomatoes	290 00
	$5,404 16

Comparative Table of Almshouse, Farm, Ledge and House Offal Receipts for Eleven Years ending November 30, 1891.

Years.	Board.	Chair Shop.	Farm.	General Sales.	Stone.	House Offal.	Totals.
1881	$322 56	.....	$378 50	.....	$2,529 01	$5,536 88	$8,766 95
1882	705 34	.....	436 54	.....	2,626 17	5,705 22	9,473 27
1883	1,174 96	.....	476 22	$14 19	2,622 00	5,819 55	10,106 92
1884	1,480 93	.....	316 76	.....	4,238 77	6,449 96	12,486 42
1885	2,035 58	.....	335 32	149 85	4,509 84	7,354 36	14,384 95
1886	613 93	37 50	772 14	319 75	5,611 38	6,926 23	14,280 93
1887	514 64	634 19	1,595 10	241 37	4,684 14	6,856 59	14,526 03
1888	557 28	614 94	2,846 52	213 62	6,662 20	6,721 50	17,616 06
1889	274 84	479 28	3,684 59	144 36	5,564 18	7,324 61	17,471 86
1890	302 49	794 36	4,364 03	150 89	5,651 38	7,386 33	18,649 48
1891	1,201 33	844 62	5,213 68	161 71	6,107 86	7,716 77	21,245 97
Totals	$9,183,88	$3,404 89	$20,419 40	$1,395 74	$50,806 93	$73,798 00	$159,008 84

The only important change among the officers or employés during the year has been the appointment of Mr. M. A. Warren Assistant Superintendent, in place of Mr. F. N. Vose who resigned in February.

Mr. Warren brings to his work the fruits of much experience in similar employments in other fields and his successful management of the boys and the industry in which they are engaged merits the warmest commendation.

Patient industry and interest in their several departments have been exhibited by a corps of faithful officers and employés.

Farm and Ledge.

The productions of the farm have been abundant, but the prices received for produce sold have netted low, and the net profit has not been large, although our gross receipts are considerably in excess of last year. There has been a good demand for stone and the ledge has been quite profitably worked.

House Offal.

The erection of new dwelling-houses and the constant increase in our population will make a larger appropriation necessary for the proper collection of house offal during the next year.

A Change Suggested.

As this report will contain a suggestion of possible changes in the Almshouse building I beg leave to call your attention to a brief sketch of the uses to which the building has been put since its erection forty years ago, and the different classes which from time to time have made up its population.

For many years it was at once an almshouse for the aged and infirm poor of the city and a work-house for the punishment and restraint of a large class of vicious and criminal persons.

And so it came to pass that on the same day that some aged woman homeless and friendless, or some feeble old man overborne by the stress of poverty entered the almshouse upon a permit from the Overseers of the Poor, there entered also under sentence from the court a truant boy of twelve years, an older boy convicted of breaking and entering, an abandoned woman

from the street and a common drunkard or an arrested vagabond. There all were received under the same hospitable roof subject to such separation as the ingenuity of the master of the workhouse could invent. We wonder now when the humane and enlightened Christian sentiment of the age demands a separation of the dependent and criminal classes, that we have learned so slowly. But we must remember that Cambridge was not behind other sections of the State in such matters, but always kept well within the laws made for the alleviation of poverty and the punishment of crime. The Boston almshouse was described at an earlier period, it is true, as containing "in one building persons of all ages and colors, with various vices, misfortunes and diseases, subjects of an almshouse, a hospital, a lunatic asylum and a prison."

Twenty years ago nearly one-third of the population of the Cambridge Almshouse were sent there for punishment. But a gradual evolution, produced perhaps more by the potent influence of public opinion than by changes in legislation, has been going on toward a better state of things, until now the only persons received upon sentence by the courts are truant and neglected children. The last adult person sent under court sentence was received about eight years ago, a woman who served a sentence of six months for vagrancy.

Aside from the truant school which occupies a part of the building, this whole establishment has now become an asylum for the poor, many of whom are well advanced in years and most of whom are in feeble health.

The policy of giving aid to families in their own homes and the changes in industrial occupations of late years, by which many avenues of profitable employment have been opened to persons of delicate constitutions who are unequal to the performance of the coarser and heavier forms of labor, have operated to keep down the numbers sent to the Almshouse to the capacity of our accommodations. But the constant increase in the population of the city, and the practice of removing the mildly insane from the State institutions to the city Almshouse, together with the great number of sick and feeble persons received who come to stay, has so increased our numbers as to reach the limit of our accommodations. Indeed, some of our rooms are now over

crowded, notably the nursery as it is called, although the average age of its occupants is nearly seventy years, which is a sitting-room by day and a dormitory by night, with ten beds standing upon a floor surface of only about nine hundred square feet.

More than eighty per cent. of the adult sane persons received during the year have been hospital cases.

The demand for more room for the proper care of the sick, the aged and the infirm is one which cannot be disregarded.

After careful consideration of the matter I am of the opinion that the most feasible plan by which more room can be obtained is by the removal of the truant school.

If this is done there will be liberated on the third story of the central part of the building a large room with a floor space of nearly three thousand square feet, with an altitude of more than twenty feet. This by proper arrangement of partitions could be made into twelve or fourteen private rooms opening into a broad corridor with an ample supply of light and air.

The change from the dormitory to separate sleeping rooms would add immeasurably to the comfort, domesticity and happiness of the women especially.

The possibility of other changes will occur to you upon a renewed examination of the building.

The upper story of the new brick building adjacent to the Almshouse could be devoted to hospital purposes. The legislature of the State has prepared the way for this change, and its importance is emphasized by the unanimous approval of the wisest and best educators and philanthropists of the day.

Respectfully submitted,

MARTIN L. ELDRIDGE,
Superintendent.

REPORT

OF THE

ASSISTANT CITY PHYSICIAN.

OFFICE OF THE ASSISTANT CITY PHYSICIAN,
CAMBRIDGEPORT, December 1, 1891.

To the Board of Overseers of the Poor:—

GENTLEMEN: I have the honor to present the following report of the doings of this office for the year ending November 30, 1891:

Almshouse.

Number of visits to Almshouse	188
Number of persons treated therein—males, 36; females, 33; boys, 25; girls, 5	99
Number of professional visits to same	2,577
Number of chronic insane re-committed to insane asylums	2
Number of patients in hospital wards Nov. 30	27
Cost of medicines and surgical appliances	$282 59
Number of deaths occurring therein	19

Outside Aid.

Number receiving professional services	715
Number of persons attended by direction of the Overseers of the Poor—men, 158; women, 288; boys, 83; girls, 95	602
Number of professional visits made to same	1,559
Number of persons attended at police stations	43
Number of civil service examinations for the police force	41
Number of examinations for the fire department	12
Number of "Soldiers' Aid" cases	17
Number of professional visits to same	50
Number examined relative to their sanity	95
Number of certificates of insanity issued—men, 45; women, 30;	75
Number of women attended in childbirth	18
Number of persons sent to hospitals for surgical and hospital care	22
Cost of medicines and surgical appliances	$312 14
Number of deaths occurring	18

Totals.

Total number of persons receiving professional service	814
Total number of visits to same	4,282
Total amount expended for medicines and surgical appliances	$594 73
Total number of certificates of death issued	66
Total amount expended in the care of "hospital cases" sent to Carney, Children's, and Cambridge Hospitals	$517 78
Total number of deaths	37

Respectfully submitted,

LEWIS L. BRYANT,
Assistant City Physician.

CITY CLERK'S ACCOUNT OF FEES AND LICENSES.

CAMBRIDGE, December 1, 1891.

To the Honorable the City Council:—

THE undersigned herewith presents an account of the sums received for fees and licenses during the year ending November 30, 1891:—

Auctioneers' Licenses	$40 00
Pool and Billiard Table Licenses	50 00
Wagons and Carriages	151 00
Intelligence Offices	18 00
Junk Licenses: Stores and Collectors	343 00
Pawnbrokers	6 00
Recording Mortgages, Assignments, etc.	600 82
Marriages Certificates	420 00
Certified Copies from the Records	24 50
Dog License	407 40
Liquor Licenses	1 00
Fireworks	78 00
Minors' Licenses for the Sale of Newspapers, etc.	56 25
Sundries	4 40
Circus Licenses	30 00
	$2,230 37

All of which has been paid into the City Treasury.

The receipts from dog licenses have been $4,890.00. Of this amount the Clerk's fee (20 cents for each license issued), amounting to $407.40, is included in the above list of fees, and the balance, amounting to $4,842.60, has been paid to the County Treasurer.

Respectfully submitted.

WALTER W. PIKE,
City Clerk.

CITY TREASURER'S FEES,

FOR THE YEAR ENDING NOV. 30, 1891.

CAMBRIDGE, December 1, 1891.

To the Honorable the City Council: —

I HEREWITH submit a report of fees received by me as Treasurer and Collector of Taxes during the year ending November 30, 1891, classifying them under the following heads, viz.: —

From Summonses Served	$1,057 06
For Preparing Advertisements of Sale	143 50
" " " "	26 60
Cost of Advertisements	123 73
Posting Notices of Collectors' Sale	134 42
Making Collector's Deeds	49 00
Making Affidavits	45 04
Poundage	20
	$1,579 55

Total, fifteen hundred seventy-nine dollars and fifty-five cents, all of which sum was paid into the City Treasury as required by ordinance.

Very respectfully,

WILLIAM W. DALLINGER,

City Treasurer.

REPORT

OF THE

CITY MESSENGER.

CAMBRIDGE, December 24, 1891.

To the Honorable the City Council:—

IN complying with the ordinance relating to the purchase and delivery of stationery, the City Messenger has the honor to submit his annual report.

Stock of stationery on hand December 1, 1890	$232 59
Purchased during the year	669 22
	$901 81

Delivered to heads of departments as follows:—

Street Department	$27 67
City Clerk	41 77
Engineering	20 75
Clerk of Committees	60 12
Auditor	27 59
City Messenger	164 56
City Treasurer	46 91
Police Department	45 09
Lamp Department	10 56
Assessors' Department	96 67
Fire Department	7 31
Milk Inspector	10 29
Bridge Commissioner	3 50
City Missionary	4 98
Probation Officer	3 50
Superintendent of Public Buildings	28 94
Soldiers' Aid Agent	10 04
Inspector of Wires	3 22
Law Department	10 44
Executive Department	18 05
Election Expenses	8 40
Stock of Stationery on hand	251 45
	$901 81

Very respectfully,

FRANCIS L. PRATT,

City Messenger.

REPORT

OF THE

TRUSTEES OF THE PUBLIC LIBRARY.

To the City Council of Cambridge:—

THE report of the Librarian, which accompanies this report, will give the statistics of the Public Library, and will show that it is steadily expanding in usefulness. The trustees are well aware that the mere quantity of books issued is a very imperfect test of the service rendered by a library, and that they must give constant heed to the quality. It is the experience of public libraries that the best way to improve this, is to give to the public as ample an opportunity as possible to see the new books of afl kinds, and become familiar, not merely with their titles, but with their aspect. For this purpose the method has been adopted in our library, of placing three large revolving-cases within sight and touch of all who visit the library and placing, the newest accessions in these cases. The frequenters of the library can thus examine, as in a book-store, the latest publications both before their actual circulation and in the intervals of their use. This is a step in the direction of that freer personal access to books, which is now the tendency of all public libraries; and which was begun, in our case, by throwing open our fine reference Library to the public. It is interesting to know that the great public library of Cleveland, Ohio, which is the pioneer in this respect, and throws open all its alcoves, except those containing fiction and juveniles, to every person who uses the library, reports that entire success has thus far followed; that no more books are lost than under the old system; and that there has been a marked improvement in the character of the reading demanded.

It may seem to some critics that the prominence now given, under this system, to new publications, must give them a disproportionate circulation, and diminish the value of other books. This is however, a short-sighted view. For it must be remembered first that the new books in many departments must supersede the old as inevitably as a newly-patented invention, if successful, drives out its predecessor. A new census makes the old statistics valuable only for comparison. It is the same with new books of science, of travels, of geography, of history, of biography. The latest information in these directions does not make the previous information valueless; it is only that we turn to it less frequently. Indeed the newer book sometimes gives a new interest to the old; we are led to compare different writers, treating of the same theme. Again the interest inspired by a writer often leads us to seek for his other writings, which have perhaps escaped our notice. Even of those older books, the new editions are commonly the best. On the whole, therefore, the constant inspection of new books, while it keeps up a fresh interest in the minds of readers, is not found to impair, but rather to increase the intelligent use of the older portion of a well arranged library.

The Trustees have now nearly reached the end of that Citizens' Fund, which has been of such value in supplying what has been called the background of the library; as books of reference, illustrated art-books, books in foreign languages and sets of periodicals. Fortunately, in these directions, the more prominent gaps have been filled, although much remains to be done. It is hoped that some fortunate donation or bequest may yet afford the means of going farther in such ways than has yet been the case. This is especially true in the direction of periodical literature. The modern tendency is to concentrate more and more the results of knowledge within the leaves of periodicals and even of newspapers; and while these are more and more difficult to obtain in complete sets, and more cumbrous to handle, by reason of numbers, they are yet absolutely necessary to the careful study of every subject. They are, moreover, quite beyond the reach of private individuals, while a single complete set of the *North American Review*, for instance, or the *Edinburgh* or *Littell's Living Age*, if placed in a public Library, will

commonly answer the needs of a whole community. For this reason, the Library has welcomed even imperfect sets of periodicals and has often completed its series by piecing together such chance donations.

What has been said of periodicals applies almost as much to a collection of pamphlets, these being still more cumbrous to deal with and yet almost as important. A great step has been taken by fitting up a room in our basement where an already large collection has been sorted out with a view to the ultimate binding, perhaps singly, of many pamphlets on such subjects as local history and family genealogy. Both of these are departments in which our library is as yet rather weak; and a special donation or bequest for use in either of these departments would be especially valuable.

The College Library has been generous to us, as usual, during the past year, both in the way of book exchanges, and by the occasional loan of books, through our officers, to those needing what we could not supply. As our library grows, a certain degree of coöperation with the College Library will become practicable, so as to avoid the unnecessary duplication of purchases, and so as to enable the patrons of each to benefit by the resources of the other. A good deal of use is already made of our Reference Library by the students of the university, especially because it is open in the evening when the college library is not; and the library is also much used by the young ladies of the so-called "Annex."

In our purchases of books we have come to rely more and more upon the "Suggestion Book" in which our visitors are invited to call our attention to any books not found in our catalogues. Where those asking for such books give their own addresses, they are informed by postal card of the purchase of the book recommended and it is retained for a day or two for their benefit. Many of our best books have been secured in this way, and the method is invaluable as a guide to the habits and inclinations of our readers. The whole test has thus far been very creditable to them; the demand has been usually for the best books and it has rarely happened that any undesirable one has been suggested. When this has happened it has apparently been through ignorance of the real character of the book named.

The working experience of a large popular library with many local deliveries has proved the justice of the fear originally felt, that the ante-rooms of our fine building and even the delivery room itself would prove too small for the purpose. No public library with which we are acquainted, has so attractive a main hall or delivery room, but the whole floor space is too small. This has rendered it necessary from the beginning to convert the larger of the two "Cambridge Memorial Rooms" into a Librarian's room, thus temporarily defeating its original plan; while every one who visits the building between four and six P. M. must be struck with its utter inadequency for students, in view of the great pressure of book borrowers and youthful readers. It may be possible, as a temporary alleviation, to convert the farthest alcove in the Librarian's Department into a private room for students; but the real evil can only be met by the addition, at no distant day, of a small wing or "annex" to the Reference Library.

A great improvement introduced during the last year, and sure to be appreciated as it is better known, is that of a card catalogue, clearly written in type-writer, of all books not included in our printed volumes. All experience shows that it is impossible to keep up, by any process of supplements, with the accession of books in a large library; the mere multiplication of issues defeats its own end. On the other hand experience shows that even children who frequent a public library can learn the use of a card catalogue; and the mere habit of looking through the titles is to some extent an education. It is probable that, for several years at least, we can rely on this new method, and not print any formal supplement.

The experiment was tried last winter, with some success, of employing Mr. Albion K. Sweet, assistant in the Manual Training School, to be present at the library one evening of the week to answer questions and give information to young mechanics and technical students. Great pains have been taken to provide for the wants of this class, through books and periodicals, and it was hoped in this way to give them an instructor. A question-box was also provided and Mr. Sweet undertook to answer all questions submitted on these subjects, in a book provided for the purpose. It worked well as far as it went, but as the large mechanical establishments are all at a distance from the library,

it was found difficult to reach those for whom it was especially designed. Should the effort be resumed this winter, it will doubtless be found best to advertise it by placard throughout the machine-shops and invite the especial coöperation of employers.

The local deliveries have worked successfully, and there has been no pressure for any increase in their number, although the plan has sometimes been suggested of providing at the larger ones a few books of reference and a few copies of current periodicals. Our force of assistants at the main library has remained the same, with the minor alterations mentioned in the librarian's report. We regretted the loss of Miss Williams, but could not be sorry that her fine professional abilities should find an ampler sphere. We were also sorry that Miss Foley's health prevented her remaining with us, as her special training in languages gave her much value. Among the trustees we recognize a great loss in the death of our late associate, Hon. H. H. Gilmore, one of the most faithful and zealous of the library's early friends, and who made his fine business abilities exceedingly useful both as President and Treasurer of our Board. This report may well close with the resolutions passed by the Board on hearing that it had lost him :—

Rosolved, That the Trustees of the Cambridge Public Library have heard with deep regret of the death of their late associate, Hon. Henry H. Gilmore. In their opinion this city could lose no one who has shown a more unselfish devotion to her interests or rendered her more faithful service. Of this library, in particular, he was one of the early and devoted friends; he rendered prompt and ready coöperation in all the changes required by the enlarging scope of the institution; his suggestions were always of value, and his careful and accurate business habits made his services, both as President and Treasurer, of the greatest importance to us.

Resolved, That a copy of these resolutions be sent to the family of our late associate, and be spread on the records of the library.

A. M. BARNES,
O. H. DURRELL,
J. R. FAIRBAIRN,
T. W. HIGGINSON,
S. L. MONTAGUE,
J. H. H. McNAMEE,
A. F. SORTWELL,
E. C. WHEELER,
} *Trustees.*

REPORT

OF THE

LIBRARIAN OF THE PUBLIC LIBRARY.

To the Trustees of the Cambridge Public Library :—

GENTLEMEN : This report, the eighteenth from the present librarian, will show that the use of the library still increases and that its value is more and more appreciated by our citizens. It is gratifying to know that the fame of this beautiful building attracts many visitors from a distance. Letters of inquiry as to its plan and regarding our methods of work have been received from Canada and the West.

Early in the year Miss L. A. Williams, who had been connected with the library as substitute and assistant for about seven years, was called to the position of librarian in the Malden Public Library. Though reluctant to lose so valuable an assistant, the trustees accepted her resignation, also that of Miss Rose Foley who left, after a year's service, on account of ill health. Miss Reed was promoted to a position at the receiving desk and the vacancies have been given to Miss Grace Clark and Miss Winifred B. Smith, both of Cambridge.

During the past year a second supplement to the catalogue has been published. This is a catalogue of the books in foreign languages contained in the library. Those in Greek and Latin were a part of the bequest of the late Mrs. A. L. Möring. From the same source came most of those in German. Others in the modern languages have been purchased from the citizens' fund, or given by various donors.

Three revolving cases, open to the public, are now kept full of books from which readers may select at will. One is devoted to new books, another to recent popular books. The third is filled with juvenile books of a higher grade than chil-

dren are apt to read. Many readers have expressed their pleasure in being allowed to choose their books.

The binding and circulation of separate numbers of the monthly magazines has been a new and popular feature of the past year's work. So great has been the demand for these, that three or four of the most popular periodicals will be duplicated and the list increased for another year.

Many libraries have established what is called an Information Desk, where an attendant is always at liberty to help any one in search of out-of-the-way information. Though we have no special desk nor attendant set apart for this work, all the employés are expected to meet such inquiries with courtesy and a ready spirit of helpfulness. The questions of a single day cover a wide field of knowledge and to answer them often requires much research.

The reference library grows richer each year in the sources of information useful to the student of all ages. Other librarians often express their desire for as valuable a collection of works of reference.

The circulation of books through the six local stations, and the public schools, under the direction of Miss Lowell, continues to afford much satisfaction to those who for various reasons are not able to come to the library. There is a growing interest among librarians and teachers in efforts to improve the reading of the young and to establish direct relations between the libraries and schools. It is a source of satisfaction to know that some libraries look to ours for an example of successful work in this direction. The testimony of the children themselves given in papers prepared for the Superintendent of Schools as to the help they had derived from the library gives ample proof of the wisdom and value of our school delivery of books.

The memorial rooms have received several valuable gifts during the year, and the Cambridge authors are in several cases represented by all their works. The list of donors which accompanies this report shows that we owe more than seven hundred of our accessions to their generosity.

The statistics which follow will show, as far as mere figures can, the work of the past year:—

Circulation.

First Quarter.	Central,	22,101	
	Local and Schools,	6,255	
			28,356
Second Quarter.	Central,	22,913	
	Local and Schools,	8,018	
			30,931
Third Quarter.	Central,	16,039	
	Local and Schools,	5,282	
			21,321
Fourth Quarter.	Central,	21,877	
	Local and Schools,	7,961	
			29,838
Total			110,446

Daily average 362
Largest issue for any day, including the local delivery, February 28 . . 890
Smallest " " " " June 11 176

Classified Circulation.

	Fiction.	Juvenile Books	Biography.	Miscellany.	History.	Poetry.	Science and Art.	Travel.	Periodicals.	Foreign Languages.	Total for Year.
Central.....	37,577	21,184	4,375	5,020	3,614	1,497	4,531	2,977	1,602	553	82,930
Local & Schools.	12,177	7,280	1,554	1,069	1,627	329	1,061	1.880	488	51	27,516
Total	49,754	28,464	5,929	6,089	5,241	1,826	5,592	4,857	2,090	604	110,446
Per cent	.45	.25	.053	.055	.047	.02	.09	.04	.03	.005	

School Delivery.

Name of School.	Agassiz.	Allston.	Corlett.	Harvard.	Morse.	Peabody.	Putnam.	Shepard.	Thorndike.	Washington.	Webster.	Wellington.	English High	Latin High.	Total.
Books delivered.....	70	867	140	655	160	590	465	518	647	672	829	598	281	192	6684

Local Delivery.

Stations.	North Cam.	East Cam.	Camb'idg'p't	Lower Port.	Belmont dist	Ward IV.	Total.
Books	4,172	3,924	4,499	2,880	2.501	2,856	20,832

The local delivery is three times a week to all the stations, except that in Ward IV, where it is twice a week.

Additions.

Source.	City App'opriat'n	Citizens' Subscription Fund.	Income of Cummings Fund.	Income of Fay Fund.	Given.	Bound Periodicals.	Total.
Books	1,712	918	97	29	810	69	3,635

Present (estimated) number of volumes in the library, 33,379.

A list of donors will be found in Appendix A of this report. Some of the books given, being duplicates of those now in the library, are held in reserve to replace worn-out copies. Several incomplete volumes of magazines are held for the same purpose. During the year the large collection of pamphlets has been examined and will in time be catalogued.

Number of books bound and repaired	3,546
Number of books covered or labelled	22,707
Number of postals sent for books over-due	4,596
Number of books lost	8
Number of new cards issued	2,654
Present number of card-holders	11,267

Of the eight books reported lost, five were taken by persons who have moved out of the city, two by those who could not be traced, and one was taken from the library table.

During the past six months a type-written card-catalogue has been prepared by Miss Russell, which now contains nearly four thousand cards. This includes the entries of all books added to

the library since the last printed supplement. The librarian's written card-catalogue is also complete to date, this being a catalogue of the whole library. An important question to be decided is: Shall we print another supplement to the 1887 catalogue, and if so, when shall it be done?

Fines and Catalogues.

The following amounts have been received from fines and the sale of catalogues; the City Treasurer's receipts for these sums have been submitted with the quarterly reports:—

	Fines.	Catalogues.	Total.
First quarter	$43 00	$15 00	$58 00
Second quarter	63 61	5 65	69 26
Third quarter	50 07	6 25	56 32
Fourth quarter	46 30	5 70	52 00
	$202 98	$32 60	$235 58

Respectfully submitted,

ALMIRA L. HAYWARD,
Librarian.

APPENDIX A.

List of Donors.

Adams, Oscar Fay. (15 incomplete vols. of Magazines, and 5 complete.)
Agassiz, Mrs. Louis 1
Attwill, R. I. 7
Baker, W. & Co. 1
Bolton, C. K. 8
Boston, City of 1
Boston Record Commission 21
Brooks, Mrs. S. W. 1
Brown, Joseph M. 1
Bullard, Miss L. D. 5
Cambridge, City of 3
Cambridge Hospital Trustees 14
Clark, Mrs. A. H. 1
Clark, Miss S. C. 6
Cogswell, Dr. E. R. 1
Cogswell, Francis 1
Cook, Thomas, & Son 1
Crook, Geo. F 2
Crook, Mrs. Geo. F. 2
Cutler, Miss. 14
Dana, R. H. 3d. 2
Denver Public Library. 1
Dixwell, Epes S. 2
Douglass, Mrs. Robt. 6
Duroy, Charles W. 2
Eddy, Sarah J. 1
Engineering News 1
Fish, F. P. 3
Fisk, Mrs. Mary G. Unbound *Atlantics*, 1871–84, and . . 3
Garman, S. 1
Goodwin, Prof. W. W. 10
Green, Mrs. J. S. C. 3
Griffis, Rev. W. E. 1
Hartford Insurance Companies 1
Harvard University 1
Hayes, Miss E. Y. 1
Higginson, Col. T. W. 56
Hill, Herbert E. 1
Holland, Rev. F. W. 15
Horsford, Prof. E. N. 5
Hudson, Mrs. H. N. 1

Indianapolis Library	1
Ivison & Blakeman	1
Leue, Adolf	1
Longfellow, Miss, and sisters	1
Los Angeles Public Library	1
Lowell, James R.	2
Malden Public Library	1
Marcy, Dr. H. O., Pamphlets and	3
Massachusetts, State of	20
Minneapolis Public Library	4
Möring, Mrs. A. L.	45
Morrison, W. A.	1
Munroe, Kirk	25
Muzzey, Rev. A. B.	2
New England Dental Society.	1
Norton, Prof. C. E.	12
Paige, Rev. L. R.	10
Palfrey, Miss	2
Peabody, Rev. A. P.	114
Philadelphia School Board	1
Rindge, Isaac	1
Rolfe, W. J.	9
Ross, D. W.	15
Salem Public Library	2
Smith, H. P.	1
Snow, Eben S.	84
Spalding, Rev. J. F.	1
Staples, Miss F.	2
Stearns, W. A., Collection of papers and	1
Sweeney, Arthur	48
Thayer, James B.	1
Thayer, W. R.	27
Tower, Mrs. J. B.	10
United States	24
Unknown	21
Various donors. (Unbound *Nations.*)	32
Vassar, John Guy	1
Veazey, W. G.	1
Walpole Public Library	2
Miss Ware, (49 by exchange.)	50
Miss Mary H. Ware	5
Wellington, Mrs. Austin	1
Whiting, S. E.	1
Whitney, Wm. H.	1
Williams, W. Roscoe	1
Worcester Antiquarian Society	1
Worcester Public Library	1
	810

A valuable oil painting, by an unknown Italian artist, and supposed to represent St. Jerome, has been presented by the Rev. Thomas Scully, of this city.

REPORT

OF THE

JOINT STANDING COMMITTEE ON PUBLIC PROPERTY.

In accordance with a custom begun in the year 1876, and since annually followed, the Committee on Public Property for the year 1891 herewith submits its final report.

So much of the work heretofore devolving on this Committee is now done by the Superintendent of Public Buildings under its advice and direction, that it is unnecessary to give herein other than a brief summary of what has been accomplished during the year, inasmuch as his report will doubtless enter fully into such details as should enter into the annual city record. The Superintendent of Public Buildings has had the immediate charge of all the work of construction and repairs of school houses and other public buildings, and as heretofore the Committee has attended to the purchase of the necessary supplies, this latter duty having been divided among the members of the Committee residing in the different wards.

Mention may be made of the following, as among the important improvements carried forward during the year :—

New Buildings.

High School house, Broadway: building completed.
Morse School house, Allston street: building completed.
Engine House No. 6, River street: building completed.

The High School building is nearly ready for occupancy, and it is expected that on January 4, 1892, the sessions of the school will open therein.

The latter two buildings have been in use for several months.

Improvements and Repairs.

Dana School house, Centre street: improved ventilation.
Felton School honse, Amory street: improved ventilation.
Otis School house, Otis street: improved ventilation.
Gore School house, Gore street: improved sanitary apparatus.
Stearns School house, Harvard street: improved water closet system.

The following is a recapitulation of expenditures under various heads of appropriations, approved by the Committee on Public Property during the last financial year, bills for the month of December, 1890, having been approved by the Committee for that year.

Expenditures.

HEADS OF APPROPRIATIONS.

PUBLIC PROPERTY.— City Buildings (care and repairs):

City Hall (furnishings)		$7,997 83
City Hall	$12,998 82	
City Building, Brattle square	3,339 25	
City Building, Central square	2,597 79	
Engine House No. 1	153 72	
Engine House No. 2	212 39	
Engine House No. 3	201 71	
Engine House No. 4	45 20	
Engine House No. 5	96 19	
Engine House No. 6	1 77	
Hook and Ladder House No. 1	32 18	
Hook and Ladder House No. 2	80 94	
Chemical House No. 1	59 71	
Police Station No. 1	62 00	
Police Station No. 2	359 68	
Police Station No. 3	58 95	
Police Station No. 5	13 85	
Bath-house	620 10	
Miscellaneous	742 64	
	——	21,676 89

PUBLIC PROPERTY. —Incidental expenses:—

Care of public clocks	157 00	
Horse-keeping (Superintendent of Public Buildings)	265 00	
Miscellaneous	2,242 63	
	——	2,664 63

PUBLIC PROPERTY.—New Engine House and land		$12,772 01
School houses (care and repairs):—		
Fuel	11,037 51	
Gas and electrics	552 90	
Janitors	14,292 53	
Repairs	6,065 10	
Supplies	2,515 52	
Extra labor and sanitary improvements	6,465 05	
		$40,928 61
PUBLIC PROPERTY.— New High School house		$64,956 64
New Morse School house		53,188 63
Total amount of payments of bills and other claims approved by this Committee in 1891		$204,185 24
The amount expended under these heads of appropriations in the year 1890, was		$211,473 09
Expended in 1892		204,185 24
Decrease in 1891		$7,288 85

The following is the usual comparative statement of expenditures under the several heads of appropriations :—

City Buildings.

Under this head are included all buildings (except school houses), the repairs upon the latter, being elsewhere noted in this report, under a different head of appropriation.

City Hall.

The amount expended for care and repair of this building was as follows :—

For Fuel	$1,697 78	
Gas and electric lighting	1,299 25	
Furnishing and supplies	1,452 89	
General repairs	2,578 62	
Janitor	1,198 55	
Engineer	1,040 00	
Fireman	382 00	
Watchman	618 00	
Extra labor, cleaning, etc.	5,731 46	
Total		$12,998 55

City Building, Brattle Square.

The cost of maintenance of the City Building, Brattle square, in 1891, was as follows :—

For Fuel	$754 61	
Gas	614 08	
Janitor	1,248 00	
General repairs	469 94	
Miscellaneous furnishings, etc.	82 62	
Lighting tower clock	170 00	
Total		$3,339 25

This amount is about the usual expense of maintaining the building before mentioned, the cost of repairs being slightly in excess of the sum expended in the year 1890.

This building is principally used for city purposes, the lower stories being devoted to the Police and Fire Departments. The Third District Court is held in the second story, and in the upper story is the armory of Company B, 5th Regiment, M. V. M. From these a rental is received as follows :—

Armory	$400 00
District Court	350 00

City Building (Central Square).

The cost of Central Square building in 1891, was as follows —

For Fuel	$451 34	
Gas	340 80	
Janitor	1,198 55	
General repairs and furnishing	386 37	
Miscellaneous	27 72	
Total		$2,404 78

This building is chiefly devoted to city uses, part being occupied as an armory by Company B, 1st Regiment M. V. M. There is also a tenement in the second story over the Chemical Engine House, and occupied by the driver of the chemical engine. A rental is received from these uses as follows :—

Armory	$400 00
Tenement	100 00
Total	$500 00

In addition to the city buildings before mentioned, there are included under the head of appropriations entitled City Buildings, Care and Repairs, all other buildings, the repairs of which are made under the general direction of this Committee, including Engine houses and Police stations, as mentioned in the classification of total expenditures given at the beginning of this report.

The expenditure in 1891 upon all such buildings was	$2,741 03
The amount appropriated for care and repairs of city buildings in 1891 was originally fixed at	22,000 00
Subsequent decrease by transfer	300 00
Balance remaining for use	$21,700 00
Amount expended	21,676 89
Balance unexpended	$23 11

School Houses.

The appropriations for construction and care and repair of school houses in 1891, was as follows:—

	Original Estimates	As subsequently changed.
School houses (care and repairs)	$44,000 00	$40,928 61
New High School	121,000 30	121,000 30
Morse School in Ward Four	52,000 50	53,188 63
	$217,000 30	$215,117 54

It was found necessary to increase the appropriation for the Morse School house, and this was done by means of a transfer from that for school houses, care and repairs, and also from City Buildings.

The total cost of the new School houses, both of which have been completed within the financial year 1891, was as follows:—

English High School House.

Total sum appropriated in 1889, 1890, and 1891	$220,000 00
Total sum expended to Nov. 30, 1891	163,956 34
Balance unexpended, to be reappropriated in 1892	56,043 66

The last named sum represents the various sums due to the contractor and others, on the completion of the building, and

will cover its entire cost, including such furnishing as will be provided for immediate use.

A further appropriation will be asked for, that the grading may be completed and the grounds properly embellished. The entire cost of the building and furnishing was as follows:—

Building	$204,174 71
Furnishing	10,245 09
Grading and loam	5,580 20
Total	$220,000 00

Morse School-House.

The entire cost of this building has been met out of the existing appropriations and the account closed.

The total amount appropriated was as follows:—

Appropriated for land in 1889	$6,000 00	
Appropriated for building in 1890	74,900 00	
Appropriated for building in 1891	2,455 37	
Subsequent transfer, in addition	1,200 00	
Total amount appropriated		$84,555 37

EXPENDED.

For Land	$6,000 00	
Building	75,287 37	
Furnishing	3,256 63	
Total		84,544 00
Balance unexpended		$11 37

For full details of the various expenditures incurred upon these buildings, reference may be had to the report of the Superintendent of Public Buildings.

Following is the usual tabular statement of the cost of maintenance of each school house. The item of gas consumed is included under the general head of furniture and supplies.

Maintenance of School Houses.

Schools.	Fuel.	Repairs.	Supplies.	Ex. Labor and Sani'y Improve't.	Janitors.	Totals.
Allston.....	$340 35	$362 17	$150 00		$446 46	$1,298 98
Agassiz	252 78	141 80	45 00		501 80	941 38
Boardman..	262 50	359 96	48 29	$8 00	278 41	957 16
Bridge	34 45	63 17	1 10	12 00	117 00	227 72
Corlett	48 90	58 80	6 25	18 00	234 00	357 95
Cushing....	109 20	224 89	42 00	9 00	234 00	619 09
Dana.	133 35	60 42	4 80	629 00	227 89	1,055 46
Dunster	124 89	26 56	9 39	8 00	312 00	480 84
Felton.....	161 05	98 33	21 64	303 50	227 86	812 38
Gann'tt,new	258 39	112 65	47 04	8 00	351 00	777 08
Gannett, old		202 35	96		377 00	580 31
Gore	439 05	236 29	18 04	2,658 00	572 00	3,923 38
Harvard....	476 10	262 24	74 60	1 50	850 20	1,664 64
High.....	834 43	109 34	69 99		850 20	1,863 96
Holmes	136 78	44 88	22 17	12 00	302 28	518 11
Lassell	113 35	36 25	13 25	16 00	312 00	490 85
Latin.....	79 65	71 31	40 73		501 80	693 49
Lowell	122 25	270 20	8 65	8 00	253 48	662 58
Mason	3 15	16 47	5 73	10 00	138 39	173 74
Morse.....	995 00			43 13	204 50	1,242 63
New High..					119 87	119 87
Otis.....	185 25	376 69	44 84	1,074 00	268 68	1,949 46
Peabody....	454 85	76 50	53 31	2 28	468 00	1,054 94
Putnam	1,368 43	154 47	108 02		572 00	2,202 92
Quincy.	150 70	80 59	18 91	12 00	253 52	515 72
Reed.....	102 30	82 45		8 00	312 00	504 75
Riverside....	163 45	182 21	22 90	12 00	312 00	692 56
Shepard	412 00	139 95	91 55	2 13	501 80	1147 43
Sargent	211 05	140 42	4 63	16 00	238 37	610 47
Stearns.....	157 95	146 95	31 61	1,036 00	211 42	1583 93
Tarbell.....	237 96	169 29	66 02	16 50	312 00	801 77
Thorndike...	326 08	439 86	92 96	2 00	537 32	1,398 22
Washington.	469 60	263 02	165 88	12 00	503 72	1,414 22
Webster.....	758 63	408 25	121 76	10 00	891 00	2,189 64
Wellington..	520 35	153 41	47 33		377 00	1,098 09
Willard.....	366 37	430 31	124 77		572 00	1,493 45
Wyman.....	132 75	22 50	12 00	8 00	400 40	575 65
All Schools .	94 17	40 15	1,432 30	518 01	149 16	2,233 79
	$11,037 51	$6,065 10	$3,068 42	$6,465 05	$14,292 53	$40.928 61

Fire Department.

In addition to the care of the various city buildings, this committee has charge of certain expenditures for the Fire Department, relating to the construction and repairs of engine houses. The sums expended in this direction are chargeable to appropriations specially made therefor, not being included in the running expenses of the department, which are controlled by the Chief Engineer.

The brick engine house referred to in the last year's report, as being in process of erection on River street, was completed and occupied early in the year. Its cost was as follows:—

Land	$3,535 00	
Buildings, etc.	15,507 96	
Total		$19,042 96

Other work upon engine houses, and in the several police stations, has been done under the advice or direction of the committee, the particulars of which are given in the report, before referred to, of the Superintendent of Public Buildings.

The Committee made the customary visits to all the public buildings in the month of January last, and a thorough inspection was made of the condition of the buildings, and especially of the sanitary arrangements connected therewith. All defects were noted, and as far as possible the same have been remedied.

It has been the practice of the Committee on Public property, to include in its annual report a list of all city property in charge of the various departments, with the areas of land and valuations.

Inasmuch as such a list will be published with the report of the Auditor of Accounts for the year 1891, its publication with this report is deemed unnecessary, and the usual list is therefore omitted herefrom.

Respectfully submitted,

SILAS. E. BUCK,
JOHN R. FAIRBAIRN,
MARSHALL N. STEARNS,
WELLINGTON FILLMORE,
CHAS. W. CHENEY,
Committee on Public Property.

REPORT

OF THE

SUPERINTENDENT OF PUBLIC BUILDINGS.

OFFICE OF THE SUPERINTENDENT OF PUBLIC BUILDINGS,
CITY HALL, December 1, 1891.

To the Honorable City Council of Cambridge :—

IN accordance with the City Building ordinance I have the honor to submit my sixth annual report regarding the construction, repairs and improvements which have been made on public buildings owned by the city and under the direction of the Committee on Public Property for the year ending November 30, 1891.

The principal expenditures have been as follows :—

Morse School House.

This school house situated on Brookline, corner of Allston street, Ward 4, has reached completion and was first occupied for school purposes on the 22d day of September last.

This structure is one of the largest in our city, convenient in all its appointments, beautiful in design, imposing in appearance and therefore invites the inspection of all interested in the work of our city schools. It consists of 14 rooms with a seating capacity for 700 pupils, besides a large exhibition hall. The Smead system is used in heating and ventilation, and is considered, with the dry-closet arrangement, to be a perfect appliance and will without doubt prove entirely satisfactory. The entire cost of the land, building, furniture and sundry supplies was as follows :—

APPROPRIATIONS.

Amount appropriated for land in 1889	$6,000 00
Amount appropriated for building, 1889	74,900 00
Additional appropriation for building and furnishing in February, 1891	2,455 37
Subsequent transfer to appropriation in 1891	1,200 00
Total appropriations in 1889, 1890 and 1891	$84,555 37

AMOUNT EXPENDED.

Land, about 25,650 square feet (This sum being the amount appropriated.)	$6,000 00

BUILDING.

Donahue Brothers, contractors	$67,795 00	
Donahue Brothers, extra work	114 00	
Smead Heating & Ventilation Company	4,800 00	
Architect	2,180 85	
Blackboards	250 00	
Printing, etc.	24 65	
Water supply	30 72	
Inspector of plumbing	90 00	
Electric supplies	2 15	
Total cost of building		$75,287 00
Cost of land and building		81,287 37
Cost of furniture and supplies		3,256 63
Total cost of land, building and furnishing		$84,544 00

RECAPITULATION.

Total amount appropriated	$84,555 37
Total amount expended	84,544 00
Balance unexpended	$11 37

New English High School.

The new English High School building has attracted much attention during the last year, and is now completed. Although the date of acceptance (Nov. 28, 1891), was about four months later than the time agreed upon in the contract for finishing, the City has every reason to feel satisfied with the expenditure of $204,174.71 on this building. It is seldom in the history of Public Buildings that so much that is truly imposing in style of

architecture, so near perfection in plan and construction, and scientific in all its appointments has been accomplished with such a comparatively small outlay of expenditure. So unusual has been this combination of fine results with low cost, that the City Architect of Boston in his recent Annual Report called attention to it in the most flattering terms: and it may not be considered out of place in this connection to quote from the report referred to which reads as follows:—

"The Roxbury High School will cost when completed $302,000.00. This building has 16 class and lecture rooms and laboratories, one drawing-room, two teachers' rooms and hall 75x101, its area is 17,125 square feet.

"The Cambridge High School now approaching completion, will cost when completed $192,000.00. This building has 16 class and recitation rooms, three laboratories, a library and a hall 43x81; its area is 15,852 square feet. The Cambridge school is a much better building, far superior in design, much more elaborate in detail, yet the cost of the Cambridge school is $110,000 less than that of the Roxbury school.

"The Cambridge School cost $12.00 per square foot. The Roxbury school cost $18.50 per square foot. If the Roxbury school had been built of a design as elaborate as the Cambridge school it should not have exceeded, at $12.00 per foot $205,536. As the building is constructed, it should not have exceeded $195,000.00. Fully $100,000.00 has needlessly been expended upon the Roxbury School."

I have referred to that report not for the purpose of making any adverse criticisms on the conduct of affairs in other cities, but simply to illustrate by way of comparison the fact that this building, notwithstanding the large expenditure made upon it, has been constructed wisely and economically, and that the proper credit should be awarded by the public to the Committee on Public Property and all others who have so faithfully discharged the trusts reposed in them by the City, not knowing any simpler means of illustration of the economic results attained by them.

In reviewing the history of this building, erected on land generously donated for the purpose by our greatly esteemed benefactor, Mr. Frederick H. Rindge, I would state that in

August, 1887, the first studies were begun by the architects appointed by the City to undertake this work. Much thought was put into these early sketches which were submitted to the proper authorities for inspection and criticism, as they progressed. Those who were to be most directly affected by the outcome were constantly consulted, and their suggestions whenever practicable were followed. Thus the special Committee of the school board, the Superintendent of Schools, the principal of the High School, his associates and others were all familiar with the plans from the beginning, and when they had received their final approval it was considered by the Committee on Public Property a sufficient endorsement to justify them in authorizing the architect to prepare working drawings and procure estimates. This was done and early in May, 1889, proposals for building were invited in the Cambridge papers. In July the bids were opened and early in August the contract was awarded to the lowest bidder. Work was begun early in September, 1889, and prosecuted with vigor until the winter weather prevented further operations. Early in the spring of 1890 the granite underpinning was laid and from that time forward there has been no cessation in the work up to the time of completion; the result showing a building of massive dimensions, solid and substantial in its classic appearance, and perfectly adapted for its uses in all its parts.

While the architecture of the exterior has been most carefully studied, the practical requirements of the interior, such as the arrangement of rooms, the quantity of light, the heating and ventilation, the sanitary appointments etc., have received equal and most careful consideration. The 12 class rooms, each about 29x40 have been so placed that all receive the sun during some portion of the school hours, the northern exposure being given up to administrative rooms, stair-cases and a few recitation rooms. The corridors are 12 feet wide on the first and second floors and run longitudinally through and between the two side entrances. The floor of the first story corridor is tiled with marble, but elsewhere hard pine flooring has been used. The iron stair-cases are simple and delicate in design, but strong in construction and are easily accessible from all of the three entrances. A clear path from one end of the building to the

other has not been overlooked. Should the corridors at any time be impassible by reason of smoke or flame, occupants of the rooms at either end could reach the other, through the various connecting rooms and coat closets.

The basement is large, cheerful and a suitable place for the gathering of pupils in inclement weather during recess, excepting the place occupied for the toilet rooms, at either end, and the boiler room; this basement is entirely open.

The heating and ventilation has received most careful study, not only by the architect and steam engineers, but by experts called in for this special purpose, the result being a very simple and effective method of appliances. By the use of the indirect system of steam heat throughout the building, every room is assured a constant supply of fresh air. The cold air inlets are managed at each register by means of chains which control a damper in the cold air supply pipe near the register box in the basement ceiling: by means of this damper the air entering the room may be hot, tepid or cool according to the degree of contact with the steam stacks, but never can the supply of fresh air be shut off by any one occupying the room which it supplies; such is a most important feature in the system of ventilation, and this is but an imperfect description of the system employed. Following the suggestions of the principal of the school, the building has been wired for incandescent lighting throughout, and a comprehensive system of bells and tubes put in. All the interior finish, except the corridors and assembly hall where ash is used, is in choice cypress. The blackboards are of the finest slate, and everywhere a wise and liberal policy is evident in the choice of material used. Nothing essential to the comfort and convenience of the future occupants has been overlooked, and all practical problems, great or small, which have arisen have been sensibly solved with a total result that is very satisfactory. The grounds are so ample that the building, although standing 100 feet back from Broadway, can be extended in the rear whenever the growth of the school demands it. This can be done without injury to the symmetrical proportions of the building, and the rear faces of the two wings will then present a more finished appearance.

It is hoped that the grounds will be maintained in a manner

commensurate with the size and importance of the building, and conforming with the grounds around the Public Library, and Manual training School, and thus serve greatly to enhance the beauty and value of this section of the city and show to the public that we are not unmindful of the liberality of the donor who has been so unbounded in generosity to his native city. The following exhibit shows the amount of the appropriation for this building, the amount expended up to the close of the year ending November 30, 1891, and the balance of appropriation unexpended to this date, which balance is to be appropriated for the year 1892 to meet payments now due and additional expenses hereafter to be incurred under the appropriation:

The amount appropriated in 1889 was	$200,000 00
Additional appropriation in 1891	20,000 00
Total appropriation	$220,000 00

Amount expended to November 30, 1891.

FOR THE BUILDING.

J. E. Giddings & Son, contractors	$132,517 22	
Ingalls & Kendricken, heating and ventilation	12,750 00	
Chamberlin & Austin, architects	8,694 28	
C. H. Stuart, Clerk of Works	2,605 00	
George S. Perry, blackboards	1,366 97	
Boston Electric Co., bells and tubes	134 50	
Incidentals	6 85	
	$158,074 82	

FURNISHING AND GRADING.

Sundry supplies	$251 32	
Architect of cabinet work	50 00	
Loam	246 39	
Grading	5,333 81	
	$5,881 52	
Total expended for building, furnishing, etc.,		$163,956 34
Balance of appropriation unexpended		$56,043 66

The following is a statement of the amount of the contracts for the work upon this building, with the balances due thereon, and other expenses for which arrangements have already been made:

For the building, J. E. Giddings & Son, contractors :		
Total amount of contracts . .	$175,899 35	
Amount paid thereon	132,517 22	
Balance due		$43,382 13
Ingalls & Kendricken, heating and ventilating	$13,940 00	
Amount paid thereon	12,750 00	
Balance due		$1,190 00
Chamberlin & Austin, architects	$9,588 04	
Amount paid thereon	8,694 03	
Balance due		$894 01
For Iron bases to vestibule . . .	$250 00	
Drain pipe	70 00	
Clerk of works	30 00	
Contractors, bills, extras . . .	100 00	
Insurance	183 75	$633 75
Total amount to be expended on the building		$46,099 89
To be expended on the furnishing :—		
Winchester Furniture Company, furniture	2,213 64	
Briggs Brothers, cabinet work . . .	5,100 00	
C. H. McClare, cabinet architect . .	205 00	
F. P. Snyder, curtains	382 50	
Sundry furnishings (ordered) . . .	2,042 63	
		$9,943 77
		$56,043 66

The last named amount is the unexpended balance of the appropriation. By the above showing it appears that the total cost of the High School building and furnishing is as follows:

Cost of building, amount paid to November 30, 1891,	$158,074 82	
Amount due	46,099 89	
		$204,174 71
Cost of furniture, filling land, drainage etc.		
Amount paid to November 30, 1891, . . .	$5,881 52	
Amount due	9,943 77	$15,825 29
Amount of appropriation and total cost . .		$220,000 00

Requirements in the line of improvements are yearly becoming more exacting, and the past year has not been an exception. Many necessities have been met and many improvements made. The materials of our school houses are about equally divided in

brick and wood. Many of them were erected when requirements for health and comfort were not so exacting as at the present time,— then school houses might be cold, badly ventilated and with no sanitary system; conditions have changed, and radical improvements are required by the people for the health and comfort of their children. If our school buildings were all of recent construction, with appliances such as the advanced ideas call for, the pressure for changes would be much lighter. We have but few modern school houses; many of the older ones are constructed of wood and have been many years in service. They have, unfortunately been allowed in many instances to deteriorate, while those more substantial are constantly subject to changes and improvements, to meet the general requirements of the present day. The most notable of these are heating, ventilation and sanitary arrangements. Modern devices are strongly demanded and large expenditures must unavoidably follow. While practicing proper economy, the city should be liberal in this line of expenditure. Difficulties in these respects often develop at unexpected times and places and demand watchful and constant care and inspection. Leaky roofs have received necessary repairs, some chimneys re-topped, the exterior of several school houses have been painted, many fences have been rebuilt, and several repaired. Many other repairs on buildings have received attention, all details of which are too numerous to mention in this report, but a brief summary of the same is as follows :—

Dana, Otis and Stearns School Houses.

A contract was awarded to Mr. F. W. Chester to set up in the basements of the above named schools, Johnson's Electric Heat Regulating Apparatus, with a system of ventilation. The cost of each was as follows: Dana $560.00, Otis $957.00, Stearns $759.00. The contract has been filled, good results are apparent, and all interested appear to be entirely satisfied.

Stearns School House.

A system has been adopted (first having been approved by the Board of Health) for sanitary purposes in the vaults of the outbuildings at this school house which is located on Harvard

street. The work is now nearing completion, and it is confidently expected that ample relief from former annoyances will follow its use. The contract price for the entire work comprising additional drainage, a separate water supply, traps, carpenter work and painting is $411.00, which will be paid from money reserved for that purpose.

Boardman, Cushing, Gore and Lowell School Houses.

The exterior wood work of these school houses has been painted and the brick work oiled at the following cost :—

Boardman	$157 75
Cushing	124 00
Gore	155 75
Lowell	200 00

Mason School House.

The old school house on Front street having served its purpose until its decayed and worn-out condition renders it no longer suitable to be occupied for school purposes, has been abandoned. As it occupies a choice site of great value, and as the building is now of no service to the city, but rather an encumbrance, the matter of its disposal is suggested for consideration.

Morse School House.

The grounds around the new Morse school house would present an improved and much more finished appearance if additional grading were done, and the lot bordering on Allston and Brookline streets protected by a granite curb. To do this as designed, an estimate of cost has been obtained and I would recommend that an appropriation for the same be made as follows :—

325 feet of granite curbing	$650 00
2 stone steps	100 00
Grading and material	200 00
	$950 00

Sundry Schools.

While an appropriation for improved sanitary conditions in outbuildings of sundry schools in our city is not pressed upon your notice at this time, a test of the new arrangement now being applied in those of the Stearns school may prove so favorable as to warrant the same application for others of equal needs.

The National Flag.

The cost during the year has not been large: some schools take pride in repairing the flags that have become worn and damaged, and some others have replaced those that have become useless, by new flags at their own expense. By the generosity of Hon. Asa P. Morse, a flag now floats over the school building bearing his name, and from a staff which he also gave to the school. The cost during the year in this direction has been $70.78.

The Old English High School Building.

The school house at the corner of Broadway and Fayette street (about to be vacated) will need transformation in many of its present appointments for future occupation by the Latin school, now located in a building on Lee street. In anticipation of necessary improvements, and in order to reach a definite conclusion as to the extent of changes that will be required, the matter has received careful study, and sketches have been prepared under the direction and approval of the Superintendent of schools; and these conclusions are ascertained. It is requisite that the sanitary arrangements in the building be removed and replaced by more healthful and modern appliances, new and improved steam heaters, and more effectual provisions for ventilation; the top floors throughout be taken up and replaced by hard pine floors; tinting, whitening and painting are required throughout; drainage improved, the exterior wood work painted, with many other incidental alterations and improvements. The application for money needed to meet the changes indicated cannot now be stated with certainty. An approximate estimate, however, has been made, amounting to about $20,000. Later the matter will be more definitely presented for your consideration.

Furnishing and Apparatus for the New English High School House.

A contract including the following has been awarded to Briggs Brothers for the sum of $5100.00 to be paid from the appropriation devoted to the furnishing of the building: Chemical tables, lecture tables, library shelving, cases for apparatus and specimen work tables, for botany, a chemical hood, plumbing, etc. The work is progressing with all due speed and will reach completion by the first of January, 1892. The lack of ample appropriation has caused necessary work to be postponed until additional means be provided to meet the expense. From a schedule furnished by the principal of the school, an approximate estimate has been made of $6000.00, and for the additional filling of land, grading the same, with walks as per plan in the office of the City Engineer $2500.00, making a total of $8500.00. The wants of a great building cannot all be foreseen; unquestionably it will take a large sum to meet them all. Contingencies may arise, broken glass to replace, the roof may call for expense, plumbing may leak, injector required to supply warm water to boiler, etc. In the present case your consideration and generosity are invited.

Wellington School.

The changes contemplated by additions to the Wellington school house, are receiving necessary study and consideration, and when more definite conclusions are reached, the matter will be brought to your attention for action.

The annexed table will show the amount expended for repairs, alterations, etc., on each building belonging to the City:—

High School	$109 34	*Amount brought up*	$2,269 41
Latin School	71 31	Gore Primary	236 29
Allston Grammar	362 17	Holmes Primary	44 88
Corlett Grammar	58 80	Lassell Primary	36 25
Harvard Grammar	262 24	Lowell Primary	270 20
Putnam Grammar	154 47	Mason Primary	16 47
Shepard Grammar	139 95	Otis Primary	376 69
Thorndike Grammar	439 86	Quincy Primary	80 59
Washington Grammar	263 02	Reed Primary	82 45
Webster Grammar	408 25	Riverside Primary.	182 21
Amount carried up	$2,269 41	*Amount carried forward*	$3,595 44

Amount brought forward	$3,595 44	*Amount brought up* . .	$4,836 62
Wellington Grammar .	153 41	Sargent Primary . . .	140 42
Agassiz Primary . .	141 80	Stearns Primary . . .	146 95
Boardman Primary . .	359 96	Tarbell Primary . . .	169 29
Bridge Primary . . .	63 17	Willard Primary . . .	430 31
Cushing Primary . .	224 89	Wyman Primary . . .	22 50
Dana Primary	60 41	Peabody Primary . . .	76 50
Dunster Primary . . .	26 56	Old Gannett	202 35
Felton Primary . . .	98 33	All Schools	40 15
Gannett Primary . . .	112 65		
Amount carried up . .	$4,836 62	Total	$6,065 09

Military Department.

A small amount has been expended for this department during the year. The shooting station building, with rifle pits and targets, after only a small expense, has cost the land rent of $60.00. The Armory in Ward 1, City building, Brattle square has been provided with helmet enclosures with several conveniences attached, at a cost of $158.88.

Bath House.

The expense on the bath house piers, extra piling and cap, amounted to $217.00. Moving house, labor, stock, casks and sundries $84.30. Painting the exterior $93.65. The total expense has been $394.95.

Fire Department.

During the year the new Engine house on River street has been completed and on the rear lot a new storage shed has been built. The entire cost was as follows:—

Cost of land	$3,535 00
Contractor	12,694 00
Architect	380 82
Heating	700 00
Sliding pole	50 00
Hose apparatus	84 62
Electric apparatus	39 96
Shed	597 00
Extra plumbing etc.	88 49
Incidentals	298 60
Paving	574 47
Total cost	$19,042 96

Recapitulation (New Engine House).

Appropriated in 1890 and 1891	$18,470 95
Transferred from Fire Departments	574 47
Revenue	26 30
Total appropriation	$19,071 72
Expended in 1890 and 1891	19,042 96
Balance unexpended	$28 76

A new hard pine floor has been laid in the apparatus room of Engine No. 1, Brattle square at an expense of $125.00 Improved drainage has been completed at Engine House No. 2, Main street at an expense of $105.28

The miscellaneous repairs on the several Engine houses have been as follows:—

Engine house and H. & L. No. 1, Brattle square	$185 90
Engine house No. 2, Main street	210 39
Engine house No. 3, Fourth street	193 46
Engine house No. 4, North avenue	45 20
Engine house No. 5, Inman square	96 19
Engine house No. 6, River street	1 77
Chemical house No. 1, Central square	59 71
Hook and Ladder No. 2, Portland street	80 94
Total	$873 56

Police Department.

A room formerly occupied by the chemical apparatus on the lower story of the Central square building, with an entrance on Green street, and occupied during the past year as a Patrol Wagon room, has received radical alterations. Stalls have been changed and many conveniences added. The stable room in the rear has been enlarged, drainage improved, etc., at an expense of $293.00, which amount was paid from the appropriation of the Police Department. The amount expended on Police stations for repairs has been as follows:—

Station No. 1, Brattle square	$62 00
Station No. 2, Central square	363 83
Station No. 3, Fourth street	58 95
Station No. 4, North avenue	13 85
Total	$498 63

City Building, Brattle Square.

The Ward One building has called for numerous changes and improvements and the work on boilers and repairs has received the necessary attention.

City Building, Central Square.

On account of changes in the location of sundry offices in this building, it has been altered considerably during the year. The Chief of Police has had nicely arranged quarters provided; the Captain's office has been fitted up more conveniently for his purposes. The sanitary arrangements and plumbing have been removed and replaced by more perfect and healthful systems. A room has been fitted up for the City Physician, and the rooms occupied by the Overseers of the Poor have been rejuvenated and made more cleanly and attractive.

Industrial School Building.

This building is at present under the care and guidance of the noble donor, Mr. Frederick H. Rindge, and is conducted at his private expense, without charge to the city; it therefore does not come under the supervision of the Superintendent of Public Buildings.

Public Library.

The Cambridge Public Library is in charge of a Board of Trustees, and all matters pertaining to its care and maintenance are entirely under their direction.

The New City Hall.

The occupation of the City Hall during the year by the city officials, has added grandeur to their previous surroundings. Its spacious and commodious rooms, and its many conveniences have been appreciated by all doing business therein. On entering upon its use it was in the nature of things that calls

should be made for some additional conveniences, and for furnishings that had not been previously anticipated. These have been met to the extent stated below :—

Amount appropriated for furnishings	$8,000 00
Amount expended	7,997 83
Balance unexpended	$2 17

Amounts expended on city buildings have been as follows :—

City Hall	$2,578 62
Ward One City Building, Brattle square	469 94
Ward Four, Central square	386 37
Total	$3,434 93

I submit estimates of the probable cost for repairs which it will be necessary to make on public buildings during the ensuing year. So far as is now apparent there will be required for ordinary repairs on school houses as follows :—

Allston	$180 00	*Amount brought up*	$2,859 00
Agassiz	185 00	Putnam	150 00
Boardman	130 00	Peabody	236 00
Bridge	80 00	Quincy	100 00
Cushing	104 00	Reed	102 00
Corlett	87 00	Riverside	112 00
Dana	197 00	Shepard	180 00
Dunster	81 00	Sargent	70 00
Felton	125 00	Stearns	105 00
Gannett	455 00	Thorndike	600 00
Gore	135 00	Tarbell	110 00
Harvard	190 00	Wellington Grammar	120 00
Holmes	166 00	Wellington Primary	75 00
Latin	230 00	Washington	180 00
Lassell	127 00	Webster	650 00
Lowell	97 00	Willard	152 00
Morse	100 00	Wyman	103 00
Otis	190 00		
Amount carried up	$2,859 00	Total	$5,904 00

On City Buildings there will be required, as follows :—

City Hall	$1,300 00
Central square building	400 00
Brattle square building	800 00
Ward rooms	50 00
Total	$2,550 00

The matter of providing a shed for horses at the City Hall, to be built on land in the rear, after removing a portion of the terrace, will be brought to your consideration.

Fire Department.

The matter of providing a new Engine House in Ward 3, will be more definitely brought to your notice in due time.

Storage Shed.

It appears necessary that a shed should be provided at the rear of Engine House No. 5, Inman square, for the storage of coal and a wagon. The matter has frequently been pressed and I bring it to your attention with an estimate, for the sum of $450.00

The estimated appropriation to meet the necessary repairs and improvements in this department for the ensuing year, is as follows :—

Hook and Ladder and Engine House No. 1, Brattle square .	$173 00
Engine House No. 2, Main street	60 00
Engine House No. 3, Fourth street	25 00
Engine House No. 4, North avenue	115 00
Engine House No. 5, Inman square	200 00
Engine House No. 6, River street	110 00
Chemical House, Central square	145 00
Hook and Ladder House, Portland street	200 00
Total	$1,028 00

Police Department.

Station One, Brattle square	$166 00
Station Two, Central square	135 00
Station Three, Fourth street	85 00
Station Five, North avenue	32 00
Total	$418 00

An appropriation for sundry repairs and the painting of the Bath House will be required, amounting to $175.00.

An appropriation of $50.00 will be required for the Shooting Range.

The Old City Hall.

As no disposition has yet been made of the old City Hall building, and its use in the future still remains undecided, no appropriation is called for at this time.

The estimates for repairs and improvements in the City buildings amount in the aggregate to $4,671.00.

The estimates for school houses, repairs and improvements amount to $5,900.00.

Appropriation suggested for the old High School . . .	$20,000 00
New High School	8,500 00
Morse School	950 00
	$29,450 00
Amount to be reappropriated on the new High School .	$56,043 66

By the foregoing report it will be seen that the City has received as an equivalent for its expenditures commensurate results in the increase and improvement of its public buildings. The completion of the Engine House on River street, the Morse School house and the English High school building. The occupation of our grand and commodious modern City Hall building, during the past year, marks a new era in the history of our city's improvements. It is well to bear in mind that with the increase in the number of our city buildings year by year, will come the necessity of increased appropriations for their care and preservation.

Respectfully submitted,

BENJAMIN H. STEELE,
Superintendent of Public Buildings.

REPORT

OF THE

INSPECTOR OF BUILDINGS.

OFFICE OF THE INSPECTOR OF BUILDINGS,
CITY HALL, CAMBRIDGE, Dec. 2, 1891.

To the Honorable City Council: —

As required by the City Building Ordinances, I have the honor to submit my sixth annual report of the business of this department for the year ending November 30, 1891.

The unabated activity throughout the year, the life and energy displayed in every section of our city, an outcome of our increased growth in wealth, population and business enterprise, is a matter calling out the best expressions of our people.

By reference to the annexed tables it will be seen that there have been granted during the year 580 permits for buildings, repairs and alteration. The work of this office comprising the issuing of permits, inspection of buildings, the examination of those supposed to be in any condition of danger, has received due attention; and a prompt and willing compliance has been generally accorded. Due caution has been taken, information sought and a growing respect for the city regulations is noticeable. But few have been found evading the requirements of first obtaining permits, and have often sought information in the line of security where danger has appeared to exist.

Our city, fast increasing in population, in the growth of real estate, in business and industrial enterprise, demands more and more that safeguards be recognized and adopted, that her buildings be constructed with due regard to public and private security and safety. Our buildings, being constructed mostly of wood, it is of the greatest importance that an increased care while building be exercised to guard against all possible danger.

Annexed is a table showing the number and character of alterations where the services of the Inspector of Buildings have been required in the interest of the public safety:

Buildings in a dangerous condition	12
Dangerous chimneys	25
Woodwork too near flues	86
Weak foundations	16
Fire Checks ordered	40
Notice to the State Inspector for Fire Escapes	24
Violation of the Building Ordinances	19
Total	222

The following table shows the number of permits granted in each ward for buildings, etc., and the uses for which they are intended.

	WARDS				
	1	2	3	4	5
Dwelling-houses in blocks	10	7	3	5	5
Single dwelling-houses	42	52	13	36	107
Addition to houses	10	24	10	14	11
Storage	3	6	11	12	16
Cellar walls	5	4	5	6	6
Stables	10	14	6	7	15
Stores			1		2
Factories		9	9	6	1
Addition to factories				3	1
Alteration to buildings	5	2	2	10	3
Carriage-houses	2	1		1	5
Offices	1	1		3	2
School-houses	1				1
Churches					
Shops	3	6		5	2
Bakeries			1	1	1
Club-houses	1				
Green-houses	2	1			2
Engine and boiler-houses		2	1		1
Steam boilers					1
Children's Home	1		1		
Tank houses			1		1
Gymnasium					1
Pest-house	1				
	97	129	64	109	181

Total 580

Of the foregoing permits, 482 were for wooden buildings, 24 for brick and stone buildings, and 74 for sundry purposes, making a total of 580.

Those of brick or stone are as follows: —

Church	1	*Brought up*	20
Factories	7	Tank and boiler-houses	1
Dwellings and stores	7	Store houses	1
School-houses	1	Pest house	1
Boiler houses	4		
Carried up	20	Total	23

Number of permits granted for each month: –

	1890.	1891.
December	27	14
January	38	14
February	24	16
March	42	63
April	74	82
May	66	52
June	44	63
July	54	54
August	57	81
September	35	58
October	66	54
November	40	29
Totals	567	580

The flowage of water from the roofs of buildings across the surface of the sidewalks during the winter season became so annoying, often forming ridges of ice dangerous to the public travel, frequently bringing the city in litigation when accidents have occurred, that measures were adopted during the month of September by the City Government, whereby parties were required to conform with the city ordinance and bring about a more favorable condition. In compliance with an order passed by the City Council, about 800 notices were issued from this office the first part of October to owners of property where a violation of the ordinance had been detected by the police. It appears that throughout the city the greater number have complied. It has been exceedingly gratifying to observe the general willingness to conform; in many cases the compliance has been a burden, and to many individuals, quite heavy to bear. The condition has been made light as was possible; the requirement has been to keep the flowage of water from roofs within

their own premises, either by grade for the purpose, cesspools or to enter the common sewer, and generally the greater number have appeared and expressed themselves satisfied. Those who have been delinquent, and have not conformed are at the mercy of the Police Department and complaints are in order if said department deems such the best course to pursue.

Respectfully submitted,

BENJAMIN H. STEELE,
Inspector of Buildings.

REPORT

OF THE

COMMITTEE ON SOLDIERS' AID.

THE Committee on Soldiers' Aid submits to the City Council its report for the year ending November 30, 1891:—

The amount paid as regular State aid was	$10,905 00
The amount paid to indigent soldiers and sailors was	4,531 00
The amount paid as soldiers' relief was	4,281 00
The amount paid for the burial of deceased indigent or friendless soldiers or sailors was	700 00
The amount paid to the clerk and agent employed in the examination of settlements, etc., was	720 00
Carriage for use of committee	6 00
Printing and Stationery	89 29
Aid by cities and towns	596 56
Ambulance fee, C. W. Dailey	7 00
Board and care of sundry persons	826 95
Car tickets	10 00
Fuel	13 55
Medicine	1 50
Tobacco	5 20
Total	$22,693 05

The amount received from the Commonwealth was	12,298 50
The amount received from other towns and cities was	36 00
For sundry authorized payments which were not paid	91 31
	12,425 81

There are now upon the State aid list 239 persons, and upon the list of indigent soldiers and sailors 38. The number of persons upon the soldiers' relief act list is 51.

All of which is respectfully submitted.

WM. M. TOWNSEND,
WM. A BANCROFT,
JOHN E. PARRY,
JOHN R. FAIRBAIRN,
E. BURT PHILLIPS,

Committee on Soldiers' Aid.

REPORT

OF THE

BOARD OF CEMETERY COMMISSIONERS.

To the Honorable the City Council of the City of Cambridge:—

THE Board of Commissioners of the Cambridge Cemetery respectfully submits its thirty-eighth annual report, the same being for the year ending November 30, 1891.

The amount appropriated at the beginning of the year was	$19,000 00
The total amount of expenditures was	18,131 22
Balance of appropriation unexpended	$868 78

For a detailed account of expenses reference is made to the Auditor's report.

The receipts of the year have been as follows:—

Burial and tomb fees	$4,361 40
Care of lots	4,674 67
Sale of lots and graves	5,920 39
Foundations, brick graves, etc.	1,395 39
Interest on Cemetery Fund,	924 33
Sundries	255 34
Total	$17,531 52

The estimated revenue was	$19,000 00
The actual revenue was	17,531 52
Deficit of revenue under estimate	$1,468 48

This deficiency is accounted for by the fact that the number of graves and lots sold during the present year has been exceedingly small, the receipts from this source being $2,324.89 less than for the year 1890.

Number of public ranges prepared this year	1
Estimated value of the same	$1,250 00
Number of lots prepared this year	13
Estimated value of the same	$1,950 00
Number of lots ready for sale: Old part 80, new part 50	130
Estimated value of the same	$40,893 50
Number of single graves ready for sale,	5
Estimated value of the same	$100 00
Number of lots placed under perpetual care in 1891	18
Number of lots placed under perpetual care, (total)	190
Received for perpetual care in 1891	$1,419 75
Amount of fund for perpetual care of lots, (total)	$23,201 24
Interest on fund for perpetual care of lots	924 33
Number of interments in 1891	$627
Number of interments in cemetery (total)	17,769
Number of removals in 1891 to other cemeteries	9

Owing to the remarkably mild weather during the past fall, the growth of the grass has been phenomenal, requiring continuous and excessive labor for several weeks beyond the usual period, and an increased expenditure of money.

Several new ranges have been laid out, of which one has been reserved for the use of the Overseers of the Poor.

In addition to the usual routine work of the Cemetery, various improvements have been begun, which will eventually add to the good appearance of the grounds. The space between the lodge and the receiving tomb, has been filled and graded and is available for ornamental or other purposes. The addition of a carriage-house to the barn, besides being of general convenience and comfort, has improved the appearance of the building and added to the attractiveness of the vicinity, as many hitherto unsightly objects are thereby screened from public view. The Winchester Estate, so called, is being gradually laid out and occupied, and, in a brief period, the necessity of a larger amount of territory will be urgent, and require prompt attention. The land bordering on Fountain Circle, which has heretofore been waste or used for ornamental purposes, has been recently marked out into a number of large and attractive burial lots, that are in a most desirable portion of the Cemetery. The grade of many of the lots bordering on Fountain avenue has been raised, and

the lots filled and sodded. For several years, this Board has urged the need of a suitable entrance gate to the Cemetery, and has noticed the unsafe condition of the present one. The present gate way was erected in 1854, and, being of wood, has become much decayed and a source of constant danger and expense. The means to erect a proper gate-way, and to reconstruct the adjoining piece of fence, should be provided for in the appropriation for the coming year.

Soldiers' Lot.

In previous years this lot has been maintained in an excellent manner, and the present year has been no exception. During the year there have been 7 interments, and we would call attention to the very limited space remaining, and suggest that steps be taken to enlarge the area. The amount expended on the lot in 1891 for all purposes, has been $216.00.

The following brief statistics may be of interest:—

Amount expended for headstones	$124 00
Amount expended for foundations	16 00
Amount expended for care and repairs	76 00
Number of interments in 1891	7
Number of interments (total)	84

Old Burial Ground, Ward One.

It is with a feeling of gratification that we call attention to the improvements at this old burial ground. It has always seemed to this Board, that the associations and sacred memories, which are commemorated by many of the old stones and tablets in this place, were worthy of the care and should receive the deep consideration of all citizens. Here lie the remains of illustrious and honored dead, the history of whose lives is inseparably linked with that of the early town and city of Cambridge, and it is believed that an endeavor to add to its attractiveness and preserve its prominent features is in accord with the public sentiment and desire. The old wooden fence, which has stood since 1859, has been removed, and a neat substantial one of wrought iron substituted, and continued along the line of the Episcopal Church property, at an expense of $2115.00 The

erection of this fence necessitated a change in the grade of much of the ground adjoining. Such changes as were needed have been made, and, with the general care and repairs, has required the sum of $275.00, making a total amount of expenditure for this year of $2,390.00. The shrubs and trees planted in the rear portion of the grounds a few years ago, have obtained almost their growth, and prevent a view of the buildings in the rear.

Before closing this summary, we desire to briefly note the resignation of Mr. Silas B. Buck, as a member of this Board. Although his retirement from the public service has been already formally passed upon, it appears proper to express the profound respect of his associates for him as a man, and to acknowledge the valuable services, so long and faithfully given in the interests of the city. By the retirement of Mr. Buck, this Board is left, for the first time, without a representative of the original Board of Commissioners of the Cemetery.

JOHN. F. O'BRIEN,
DAVID ELLIS,
ISAAC S. PEAR,
NATHAN C. LOMBARD,
GEORGE S. SAUNDERS,
WILLIAM A. BERTSCH,
} *Cemetery Commissioners.*

REPORT

OF THE

CITY ENGINEER.

CITY ENGINEER'S OFFICE, CITY HALL,
CAMBRIDGE, December 1, 1890.

To the Honorable the City Council: —

THE City Engineer herewith respectfully submits the twenty-fifth annual report, showing the operations and expenses of the Departments of Engineering and Sewers for the year ending December 1, 1891,

Office.

The appropriation for Engineering was		$9,511 40
Expended for salaries	$8,839 60	
Expended for sundry supplies etc.	533 99	
Expended for book case	75 00	
Balance unexpended	62 81	
		$9,511 40

There have been employed in this department ten assistants and the clerk during portions of the year. Four of these have served the whole year. All deserve credit for the prompt and efficient performance of duties entrusted to them.

The following is a brief summary of the work performed during the year:

For the Street Department.

Number of street lines given	112
Number of street grades given	147
Number of cars measured (cracked stone)	1,340
Number of streets on which paving, curb, etc., was measured	62
Number of miscellaneous measures and surveys	19
Number of assessments prepared	277
Number of profiles prepared	23

For Sewer Department.

Number of lines given	50
Number of grades given	98
Number of sewers measured	49
Number of plans or profiles prepared	45
Number of sewer assessments prepared	123

For Private Parties.

Number of street lines given	64
Number of street grades given	26

Miscellaneous Work.

Number of houses measured	504
Number of plans or profiles prepared	43
Number of surveys or levels made	30
Number of streets renumbered	42
Number of surveys at cemetery	8

BRIDGES.

Boylston Street Bridge.

The contract for widening the passageway for vessels to this bridge was completed in the early part of the year by John Cavanagh & Son, contractors. The draw-way is now 36 feet wide as required by the Act of Legislature.

The total cost of this work was $8,590.91, one half to be paid by Cambridge, and one half by Boston. The balance of the bridge in Cambridge will have to be replanked at an early day.

Brookline Bridge.

The contract for widening the passageway for vessels to this bridge, awarded December 1, 1890 to W. A. Kenrick & Son, after much delay, was completed in the spring of 1891. The cost of the work was $7,421.89, to be paid in equal shares by the two cities. The draw-way is now 36 feet wide. While the work was in progress the opportunity was taken to replank the Cambridge part of the bridge and on February 19, 1891, a contract was made with Mr. John T. Scully to do the work. The cost was $718.50. The rest of the bridge is now in fair condition.

River Street Bridge.

The contract made with Alexander McInnis, August 9 1890, for rebuilding the Cambridge part of this bridge and widening the Boston portion, making it a uniform width of 40 feet, and giving a draw-way 36 feet wide, was finished by him in April of this year.

Total cost of this work was $13,096.98, a part of this to be paid by Boston. The whole bridge is now in first-class condition.

Sixth Street Bridge.

This bridge is now in good condition.

Western Avenue Bridge.

As stated in the last annual report, this was the last of the four bridges on Charles River to receive attention, in the matter of widening the draw-way for the passage of vessels.

On March 20, 1891, a contract was made with Mr. William Miller to do this work, which was carried out in a very prompt and satisfactory manner. The bridge was closed to travel April 4, 1891, and opened again April 29, 1891, being closed to travel only 25 days.

The total cost of this work was $7,578.63 to be paid equally by the two cities. The width of the opening or draw-way is now 36 feet.

The portion of the bridge between that just rebuilt and the abutment on the Cambridge side is not in good condition. In many of the bents, there are but four piles in the width of the bridge to carry the top, and many of these are greatly reduced in strength by auger holes, erosion by the ice, and decay.

The bridge is narrow and carries a large amount of very heavy teaming. It should be rebuilt at once, and made of a width uniform with the new work put in the past season, and that on the Boston side.

North Avenue Culvert, at Alewife Brook.

An examination of this culvert showed the timber to be so rotten that, after conference with the Authorities of Arlington, it was decided to rebuild it at once.

Plans and specifications were accordingly prepared, and on the twenty-fourth day of April, 1891, a contract was signed by Messrs. Dailey & Crockett to rebuild the structure. The work was completed August 27, 1891, at a cost of $5,523.35. The side walls of this culvert are of granite, founded on a concrete base, which is carried down to a solid clay bottom. The arch has a span of 15 feet, a rise of five feet, a length of 98 feet and a thickness of 16 and 20 inches. It is built of hard bricks, laid in Portland cement mortar. The arch is further strengthened by four spandrel and two end walls of masonry, four feet thick. The top of the arch between these walls is covered with Portland cement, and also with three thicknesses of Asphalt roofing paper, cemented together and to the arch, with three coats of asphalt pitch applied hot, to keep the water from the masonry. Lead pipes conduct this water through the arch to the stream below. The work was well and thoroughly built by the contractors, and no settlement has as yet appeared in the arch or masonry.

Walden Street Bridge.

An examination of this bridge, in the latter part of July, 1891, showed that the ends of the bottom chord timbers of the Easterly truss was badly decayed, rendering the bridge unsafe for travel. The question of to whom belonged the duty of repairing or replacing the bridge was then referred to the City Solicitor for a decision.

No definite reply having been received to this question, it was finally decided, as a temporary measure, to place a new truss adjacent to the old and unsafe one and attach the bridge timbers to the new truss. A contract was accordingly made with William Miller, and a new truss was placed for the sum of $245.00, and the travel over the bridge resumed.

When the question of responsibility in decided, a new bridge should be built at once by the party on whom the duty rests.

Harvard Bridge and Front Street.

In July, 1890, application having been made by the City of Cambridge to the Board of Railroad Commissioners to fix the details of the crossing of the new avenue at the Boston &

Albany Branch Railroad, that Board determined that the crossing should be by a bridge over the railroad. An appeal from this decision was taken to the Supreme Court, which in January 1891, reversed this decision of the Railroad Commissioners, giving the city the right to cross the railroad at grade. The avenue has accordingly been put in condition for travel the past season. The roadway for the whole length of the Avenue was paved with "Telford McAdam" pavement. Edgestones were set from the junction of Main street to the railroad, and the sidewalks built of cracked stone and stone dust.

A complete and independent system of surface drainage was also put in, on the portion between the railroad and Harvard bridge. 1,262.7 feet of drain was laid for this purpose, and 23 catch basins were built.

The total expenditure for grading by the Street Department has been $43,788.10. The cost of the drain, catch-basins etc., was $7,071.25, making the total cost of the work $50,859.35.

The streets accepted, and the grades established during the year from December 1, 1890 to December 1, 1891, are shown in the following table:

STREET.					PLAN.		
Name.	From	To	Length in feet.	Width in feet.	Accepted.	Made by	Date.
Auburn street*.....	Magazine street.	Pearl street.....	446	40	April 7, 1891.	City Engineer.....	June 28, 1890.
Carlisle street	Prospect street..	Tremont street.....	263	40	June 10, "	W. A. Mason & Son	May 15, 1891.
Cherry street*.....	School street....	Harvard street.....	941	30	April 14, "	City Engineer	May 20, 1879.
Creighton street.....	North avenue...	Southerly..	630	40	June 3, "	W. A. Mason & Son	May 3, 1890.
Fairfield street.....	Spruce street....	Pemberton street.....	610	40	Oct. 14, "	W. A. Mason & Son	May 10, 1888.
Farrar street	Scott street.....	Holden street.....	586	40	Sept. 30, "	W. A. Mason & Son	August, 1891.
Holden street.....	Kirkland street.	North Line Farrar street	273	40	Sept. 30, "	W. A. Mason & Son	August, 1891.
Inman street	Harvard street..	Broadway.....	390	37	Dec. 24, 1890.	City Engineer	Mar. 25, 1872.
Kildare street.....	Dublin street....	Garden street.....	238	40	June 17, 1891.	E. F. Bowker.....	May 26, 1890.
Pemberton street.....	Spruce street...	Southerly.....	914	40	Oct. 14, "	W. A. Mason & Son	May 10, 1888.
Soden street*.....	Western avenue.	Franklin street.....	480	40	April 7, "	City Engineer.....	Nov. 14, 1890.
Tannery street.....	North avenue...	Northeasterly	600	..	May 13, "	City Engineer.....	July 16, 1890.
Wicklow street.....	Dublin street...	Garden street....	305	40	June 17 "	E. F. Bowker.....	May 26, 1890.
Windsor street.....	Cambridge street	Northerly.....	212	38	Nov. 11, "	E. F. Bowker.....	June 5, 1874.

* Grade established.

Total length of streets accepted during the year, 5,021 ft. = 0.95 miles.

Cemetery.

The usual amount of work, staking out lots and paths and setting grades has been done at the cemetery. The wooden fence enclosing the old burial ground near Harvard Square having become decayed, the Cemetery Commissioners decided to replace it with an iron fence, and on April 7, 1891, a contract was made with Mr. P. J. Dinn, of Boston, to construct a neat and substantial iron fence from designs and plans drawn by the City Engineer. Mr. Dinn carried out his contract in a very thorough and careful manner, at a cost of $2,115.00.

Sewers.

During the year 2.616 miles of sewers have been built, making the total length in the city 88.779 miles.

The total cost of construction of these sewers to date is $1,129,638.10.

Twenty-one persons have been licensed as drain layers to whom have been granted 662 permits for doing work connected with private drains, during the year.

Bridge Street Sewer.

The usual dredging has been done on the flats about the mouth of this sewer. 3,590 cubic yards of material were removed by the Eastern Dredging Company at 53 cents per cubic yard. The total cost of the work was $2,222.58. Five-ninths were paid by the City of Somerville, and four-ninths by Cambridge.

Murray Street Sewer.

This sewer, extending from Charles river to Eliot square, was built in 1871. It was a wooden sewer on pile foundation, built before the street was filled, in marsh mud. The settlement of the mud, and the weight of the filling caused the sewer to become badly out of shape, the bottom to drop away, and the gates to become inoperative. It was decided to rebuild the sewer, and connect it with the new sewer in Eliot and Harvard squares begun last year.

In anticipation of the requirements, when this sewer should be connected with the Metropolitan Sewerage System, a small pipe sewer was laid alongside the new wooden sewer, which will now serve only as an outlet, or storm overflow. This pipe sewer is intended to take only the house sewerage, and has an inclination from the Charles river toward Eliot square, where the connection with the Metropolitan Sewer will be placed.

Metropolitan Sewerage System.

The work of construction on this system has been continued during the year. The South Metropolitan Sewer is now nearly completed, and it is expected to be in operation in the early part of 1892. On the North Metropolitan Sewer, through which the sewerage of Cambridge will be discharged, there is completed or under contract 59,077 feet or $11\frac{188}{1000}$ miles of sewer, bringing the sewer to Alford street in Charlestown, a distance of $9\frac{715}{1000}$ miles from the outlet at Deer Island. It is possible that one or more sections of the sewer in Cambridge may be constructed during the coming season.

The Commissioners appointed by the Supreme Court to apportion among the eighteen cities and towns within the district, the cost of construction of this sewerage system, and also the annual expense of maintenance, and operation of the same, — Messrs. Hoar, Endicott and Sanford — on November 7, 1891, made an award, by which Cambridge is to pay annually, for the next five years, as its proportion, 27.87 per cent. of the annual charges on account of the Sinking Fund established by the State to defray the cost of construction of the "North Metropolitan Sewer." The estimated cost of this sewer is $4,159,453,00. The basis by which this proportion was determined is given by the Commissioners as the "total values of real and personal estate" — "all bank and corporation stocks, and ships and vessels."

Of the annual charge for "Maintenance and Operation" of the system, Cambridge is, by this award, to pay 26.39 per cent., this proportion having primary reference to the population of the district. The established yearly charge for maintenance and operation when the system is complete is $84,700.

Alewife Brook.

The work of cleaning out and deepening the channel to the brook, which was referred to in the last annual report, has been done the past season. Some preliminary estimates for doing the work were obtained from contractors, but it was finally decided to do it by day labor. The result was a very large saving in cost. The brook was deepened from the gate house at Broadway, Somerville, to the sewer outlet at Concord avenue, a length of about 8,090 feet. Temporary dams of timber were driven across the brook, at short distances apart, and the water diverted through a side canal or ditch. The section thus dried out was excavated to the desired grade and width, and the material wheeled in barrows and dumped on the adjoining low lands.

The grade of the bed of the brook was lowered from 2 to 3 feet, and the water way very largely increased. The condition of the brook cannot but be vastly improved by this work. The cost of the work has been to date $5,815.06, one or two small bills yet remaining unpaid.

The following is a brief slatement of the appropriation and expenditures for sewers: —

Sewers: Construction, Sundry Sewers.		
Appropriation	$25,213 04	
Transferred to Sewers, Maintenance	5,000 00	
	$20,213 04	
Expended	18,420 49	
Balance unexpended		$1,792 55
Sewers: Maintenance.		
Appropriation	$30,000 00	
Transferred from Sewers, Construction	5,000 00	
	$35,000 00	
Expended	34,473 19	
Balance unexpended		$526 81

The details of the construction and the cost of sewers constructed during the year are shown in the following table. In addition to the sewers there shown, twenty-two catch-basins have been built at a cost of $1,716.81. The construction of sewers has been done by the Superintendent of Sewers, by day labor, under the general direction of the City Engineer.

Sewers Constructed between Dec. 1, 1890, and Dec. 1, 1891.

Location.			Construction.							Total cost.
Street.	From.	To	Material.	Size in Inches.	Av. depth of Cut.	Man-holes.	Lamp-holes.	Inlets	Length in feet.	
Allston	End of old sewer	Near Brookline St	Akron pipe	12 and 10	8.1		1	10	98.3	*$171 22
Arnold Circle	Main St	Northerly	" "	8	8.1		1	10	174.9	157 70
Auburn Pl	Belmont District sewer	Southerly	" "	10	4.5			6	89.2	53 76
Berkshire	Plymouth St	Northerly	" "	10	8.0	1		17	230.3	223 69
Brattle	End of old sewer	Near James St	" "	12 and 10	7.6	1	1	14	148.1	191 89
Brewer	Mt. Auburn St	Southerly	" "	12 and 10	6.0	1	1	26	379.5	470 66
Brookline	Near Henry St	Southerly	" "	10	7.6		1	18	282.4	403 23
Conlan's Ct	Third St	Easterly	" "	10	5.9	1		19	212.9	†326 13
Fourth	Fourth St. Pl	Northeasterly	" "	8	8.0		1	4	40.7	26 59
Franklin	End of old sewer	Near Pleasant St	" "	10	7 4			6	60.5	33 64
Fresh Pond Ave.	Reservoir St	Near Fayerweather St.	Portland pipe	10	9.2	1	1	25	349.3	351 58
Garden Ct. and private land (see Lambert Ave.)	End of old sewer	Easterly	Akron pipe	10	8.9			20	272.2	
Glenwood Ave.	End of old sewer	Near Magazine St	" "	10	9.3	1	1	20	266.5	277 29
Gorham	Wendell St	Northerly	Portland pipe	10	8.1		1	8	180.8	137 33
Hamilton	Sidney St	Westerly	Akron pipe	10	3.4			14	218.5	136 76
Holyoke (see Winthrop)	End of old sewer	Winthrop St	" "	12	7.7			4	66.1	
Hollis	End of old sewer	Easterly	Akron pipe	12	8.2	1		18	201.5	198 66
Huron (see Fresh Pond Ave.)										
Irving	Kirkland St	Cambridge St	Akron & Portl'd pipe	12 and 10	9 4	2	1	58	774.2	958 57
Kirkland Pl	Kirkland St	Northerly	Akron pipe	12 and 10	8.8	2	1	40	526 0	531 28
Kirkland (see Myrtle Ave.)	Baldwin St	Myrtle Ave	" "	18	7.8	1		7	105.8	
Lambert Ave	Newell St	Near Raymond St	" "	10	8 6	1	1	30	349 5	860 58
Lambert Ave	Mt. Pleasant St	Easterly	" "	10	8 8	2		20	319.5	‡492 19
Lincoln	Elm St	Easterly	Portland pipe	8	7.1		1	6	98.2	54 36
Locke[Myrtle av	Frank St	Northerly	" "	10	7.6		1	14	184.9	112 43
Magnolia (see	Baldwin St	Near Line St	Akron pipe	15 and 10	4 2	2	1	31	622.9	
Middlesex	Railroad St	Near Spruce St	Portland pipe	15, 12 and 10	8.0	3		67	869.4	1,064 32
Montgomery	Spruce St	Near George St	Akron & Portl'd pipe	15, 12 and 10	8.1	4		86	1,073.9	1,593 10

*Includes cost of rebuilding 112.6 ft. †Includes cost of Third St. ‡Includes cost of Garden Ct. and private land and Newell St.

Sewers Constructed between Dec. 1, 1890, and Dec. 1, 1891. (Continued.)

Location.			Construction.							Total Cost.
Street.	From	To	Material.	Size in inches.	Av. depth of Cut,	Man-holes	Lamp-holes.	Inlets.	Length in ft.	
Mt. Auburn....	Hawthorn St.....	Easterly.....	Akron pipe	10	8.9		1	10	157.0	203 90
Myrtle Ave. ...	Kirkland St.....	Magnolia St	" "	18 and 10	6.2	2		42	583.2	*1,582 33
Newell(see Lambert Ave.....	Lambert Ave.....	Southerly.....	" "	10	9.1	1		10	137.5	
Otis	End of old sewer w'l'y	Near B. & A. B'ch R. R.	" "	10	7.8	1		4	36.9	65 46
Raymond.....	End of old sewer.	Near Walden St.....	" "	12 and 10	9.5	1	1	27	298.2	334 84
Reservoir.....	Vassal Lane.....	Southerly	Portland pipe	15 and 12	10.1	3		75	1,160.9	1,777 01
Rogers.....	Third St.	Westerly.....	Akron pipe	12	6 3	2		20	297 6	434 71
Spruce.....	North Ave.....	Near Fairfield St.....	" "	10	6.8	1	1	24	408 6	302 97
Third (see Conlan's Ct.....	End of old sewer.....	Conlan's Ct.....	" "	15	8.3			8	90.4	
Third.....	Bridge St.....	Northerly	" "	8	10.2		1	7	153.1	225 17
Van Norden....	Middlesex St.....	Easterly.....	Portland pipe	10	7.6	2		24	351.3	350 06
Wallace Pl.....	Wallace St.....	Southetly.....	Akron pipe	8	7.1		1	6	117.0	56 52
Waverly.....	Allston St.....	Northeasterly.....	Portland pipe	18 and 15	8.1	1	1	25	427.7	807 19
White	Elm St. (Somerville)...	Near Somerville Ave..	Akron pipe	12 and 10	10.7	3		45	578.6	798 29
Whitney Ave...	Putnam Ave.....	Near Chestnut St.....	" "	10	8.4		1	19	270.2	217 25
Wilbur.....	Harvey St.....	Southerly	Portland pipe	10	4.4	1	1	24	395.1	222 58
Winthrop.....	Holyoke St.....	Near Dunster St.....	Akron pipe	10	8.5	1	1	16	171.1	†254 24
Woodbridge....	North Ave.....	Near Locke St.....	Portland pipe	10	9.0	1	1	28	379.6	338 74
						44	25	1012	13,810 0	$16,798 22

*Includes cost of Kirkland and Magnolia Streets.

†Includes cost of Holyoke Street.

Sewers Reconstructed between Dec. 1, 1890, and Dec. 1, 1891.

Location.			Construction.							Total cost.
Street.	From	To	Material.	Size in inches.	Av. depth of Cut.	Man-holes.	Lamp-holes.	Inlets	Length in feet.	
Eliot, Brattle and Harvard Squares	Murray St.	Near Church St.	Brick & Akron pipe	21½x26½, 18½x24, 18, and 15	10.6	5		92	1,251.5	$4,240 18
Front	Albany St.	Near Village St.	Akron pipe	15	9.7	1		39	606.9	1,732 87
*Murray	Charles River	Eliot Sq.	Wood, Pipe & Brick	8, 10 and 12, 26x30 and 24x31	11.1	4	1	88	1,022.5	9,103 69
						10	1	219	2,880.9	$15,076 74

*Pile foundation.

The Superintendent of Sewers reports as follows: —

Mr. L. M. Hastings: —

SIR: In my last report to you I spoke of the sewers east of Austin street. There has been some trouble with some of them this season, and they should be rebuilt this coming year. Some of the sewers in the Franklin street district will have to be relaid, and I find many of the old style brick sewers with stone covers are breaking down. The covering stone seems to lose its strength after some years under ground. Many of them are not deep enough and cause trouble on that account. Some parts of the city can be better drained by a separate system which can be adopted when the Metropolitan Sewer is built in Cambridge.

The usual amount of cleaning and flushing has been done during the year.

There have been 45 new catch-basins built, and 56 have been repaired. Twelve North River stones have been set in place of as many broken ones. 71 wooden catch-basin covers have been put on.

The work of cleaning catch-basins is continued throughout the year when the weather is suitable. 3,937 single loads of dirt have been taken from 1,267 catch basins, and deposited in different parts of the city.

The working force has been from 50 to 90 men during the season, and as the season has been very favorable, there has been little lost time, on account of bad weather.

The work at Alewife Brook is completed with the exception of the part at the new culvert at the Massachusetts Central Railroad. I have been waiting for them to finish, but as they have stopped work, I shall finish up our part very soon.

We have three horses, 3 sets of harness, 1 express wagon, 1 covered wagon, 1 top buggy, blankets etc. 1 hoisting engine, 1 six-inch submerged pump, 1 pile driver, 1 boom derrick, 1 four-legged derrick, 3 hand pumps, 1 Clarkson hoisting machine, 1 two-horse roller, and all smaller tools necessary for work connected with the Department.

We have at the Sewer Yard in stock: —

558 feet 15-inch pipe.
6 pieces 15x8-inch Y's.
1 piece 15x10-inch Y.
36 pieces 15x6-inch Y's.
1 piece 12x15-inch Y.
3 pieces 15-inch curves.
606 feet 12-inch pipe.
1 piece 12x10-inch Y.
3 pieces 12x8-inch Y's.
15 pieces 12x6-inch Y's.
2 pieces 12-inch curves.
1 piece 12x10-inch reducer.
1 piece 12x10-inch T branch.
48 feet 10-inch pipe.
3 10x10-inch Y's.
7 pieces 10x8-inch Y's.
11 pieces 6x10-inch Y's.
15 pieces 10-inch long curves.
3 pieces 10-inch slants.
2 pieces 10-inch bends $\frac{1}{8}$.
170 feet 8-inch pipe.
7 pieces 8-inch slants.
10 pieces 10x8 reducers.
18 pieces 8-inch short curves.
4 pieces 8-inch long curves.
13 pieces 8-inch $\frac{1}{8}$ bends.
410 feet 6-inch pipe.
18 8x6-inch Y's.
9 pieces 6x6-inch Y's.
22 pieces 6-inch long curves.
26 pieces 6-inch short curves.
13 pieces 6-inch $\frac{1}{8}$ bends.
About 700 feet leather hose,
31 traps and hooks.
2 sets old style catch basin stones, dressed.
15 catch-basin bib stones, dressed.
4 catch-basin bib stones, not dressed.
13 iron catch-basin covers.
5 iron catch-basin grate covers.
12 North River flags, dressed.
2 North River flags, not dressed.
2 catch-basin curbs, dressed.
10 catch-basin curbs, not dressed.
5 catch-basin corner stones not dressed.
30 feet 18-inch pipe.
1 piece 12x18-inch Y.
1 piece 18x8-inch Y.
3 pieces 18x6-inch Y's.

T. L. PIKE,
Superintendent of Sewers.

Reservoir.

Work on the wall at Reservoir street begun last season was completed in August, 1891. The new wall was constructed in a most thorough and substantial manner, and now presents a very solid and enduring front.

About 1,200 cubic yards of wall was built requiring 246 cubic yards of ashlar granite, 546 cubic yards rubble granite, besides a considerable quanity of stone taken from the old wall. 263.8 lineal feet of heavy coping was set. The total cost of this work, together with the removal of part of the North wall and grading the bank in its place was $24,086.60.

Stony Brook.

Water has wasted over the dam for 209 days during ten months of the year as follows: —

December,	1890, ...	534,144,000 gallons
January,	1891, ...	1,841,281,000 gallons

February,	1891	1,758,728,000 gallons
March,	"	2,452,457,000 gallons
April,	"	1,306,227,000 gallons
May,	"	202,242,000 gallons
June,	"	113,208,000 gallons
July,	"	4,168,000 gallons
August,	"	688,000 gallons
September,	"	1,285,000 gallons
October,	"	
November,	"	

Making an aggregate of 8,214,428,000 gallons wasted during the year. The greatest amount wasted in one day was on January 23, 1891, when the flow was at the rate of 301,210,000 gallons daily. The water in the Stony Brook basin reached its lowest elevation Nov. 10, 1891, when it was 72.20 feet above city base or 8.80 feet below the iron crest of the dam (elevation 81.00). On January 23, 1891, the water reached its highest point for the year, 2.31 feet above the crest, or elevation 83.31.

Hearings before Commissioners on matters connected with the takings of land or water by the city have continued through the year.

In the case of Sibley *et al.* begun in 1889 for land and water power taken at Stony Brook, an award has recently been given.

In the case of the Boston Manufacturing Company *et al.* for loss of water power in Charles River by the taking of Stony Brook water, much time was given in preparing facts and data relating to the case. The hearings have been concluded but no award has yet been made.

In the case of Somers for land taken at Fresh Pond, plans and estimates were made of amount of land and filling, etc., taken. Case closed but no award.

In the case of the Boston Ice Company for land and ice rights and houses on Fresh Pond, an award has been made. In all these cases claims of enormous loss or damage were presented.

Interesting data concerning rainfall will be found in the table appended.

Respectfully submitted,

L. M. HASTINGS,
City Engineer.

Table Showing Rainfall at Kendall Green and Roberts Dam in Weston and at the Fresh Pond Pumping Station (Cambridge Water Works) and the Harvard Observatory, Cambridge, December 1, 1890, to December 1, 1891.

Day of Month.	1890. DECEMBER. Kendall Green.	Roberts Dam.	Fresh Pond.	Harvard Obs.	1891. JANUARY. K. G.	R. D.	F. P.	H. O.	FEBRUARY. K. G.	R. D.	F. P.	H. O.	MARCH. K. G.	R. D.	F. P.	H. O.	APRIL. K. G.	R. D.	F. P.	H. O.	MAY. K. G.	R. D.	F. P.	H. O.	JUNE. K. G.	R. D.	F. P.	H. O.	JULY. K. G.	R. D.	F. P.	H. O.	AUGUST. K. G.	R. D.	F. P.	H. O.	SEPTEMBER. K. G.	R. D.	F. P.	H. O.	OCTOBER. K. G.	R. D.	F. P.	H. O.	1891. NOVEMBER. K. G.	R. D.	F. P.	H. O.
1					.05		.33	T	.50	.36		.35		.18		.09																		15.			.05	.05		.11										
2					1.05	.40	1.06	.40										1.68							.42		.40							.15		.14														
3	.86					.92		.95	.39		.41		.14		.43	T	2.47	1.68	.11	1.59	.16		.10			.37	.46	.41			.17																		
4	.30	1.12	1.12	1.13			.07			.45		.40	2.16	.70	1.57	.52		.20		.04		.18		.08	.46	.36		.42	.21	.34		.14								.12								
5	.08		.06		.47	.07	.05	.06					.20	.30		.85																T		.39		.50		.28		.10			.09					
6	.10	.07	.20	.06				.06	.11		.15	.04											.01										.65	.66		.38	1.14	.36	1.38	.29								
7	.14	.23		T						.18	.48	.06																	.20		.65		.07		.38		1.32	.66	1.56	.75		2 02						
8				.15					.69	.25	.17	.41																	.41	.72		.71				.38		.54		.42	.83	1.61		1.97				
9									.40	.11	.73	.14			.75	T																																
10									.37	.70	.08	.79	.90	1.13		.71																														T
11					.38		.96			.08							.32		.27	T																				.03		.01		.23		.28	.01
12				T	.92	1.12		1.00							.63			.36		.24	T		.13										.02	.28	.09							T		.26		.23
13													.75	.57	.21	.61					.04			.08											.06.			.20		.42		1.15					
14					.02		.04	.03						.20		.16			.39																				.16	.39	.78		1.16					
15											.01						.63	.45		.39			.75						T		.03		.55		.60			.31				.04					
16											.18	T									.64	.47	.74	.60							T			.68		.58							.02	.24		.22	
17	1.28		1.60		.83		1.57	.02	.35	.18	.38	.18										.63		.84	1.38		.56										.01						.40	.25	.47	.34
18	.80	1.75		1.55	.95	1.52	.05	1.66	.27	.40		.34					.15		.15				.02		.63	1.32	.66	.51	T		.19									T					.49		.16
19				T		.07							.14		.11	.04	T	.20		.13				T	.02	.63	.16	.51	.34	.23		.16									.03						
20									.31		.34			.80	.07	T									.12	.16.		.12												.90		1.05	.03				
21							.15		.21	.34	.37	.36	1.24		1.90	.15					T						.69						T		.40			.03			.90		.97					
22					1.10		.84	.13	.17	.36		.31	.73	1.50	.06	1.72					T				1.48	.79	1.01	.74					.74	.64	.06	.41	.11					.47					
23						1.10		.72					T	.80	.01	.05										.76		.85					.06	.02	T		.22			.63	.33	.10	.47	.40	.06	.22	T
24							.29						T			T													.24		.34		.09			.01				.13		.06		.25		.35
25					.78		.54	.38			.45						.07		.12	.05										.52		.30				T										
26	1.35		1.42			.55		.33	.77	.41	.72	.44									.12	.13	.10				.04												.02		.07			1.83		
27	.64	2.00		2.15					.64	.65	.04	.74												.11									.20		.38					.11	.06	.04	.05	1.32	1.21	.06	1.13
28							.10				.10												.17							.53			1.75	.73	.78	.41					.05		T		.05		T
29					.36		.27	.12													.36		.42	.18			.03	.01	.60	.54	.11	.56		2.00	.06	.56	T		.17								
30						.39		.23														.29		.21				T	T	.10	1.04	.03	.16		.25	.06		.13		.09							
31				T			.36																						.51	.76		1.03		.40	.12	.22										
	5.55	5.17	4.40	5.04	6.91	6.14	6.68	7.09	5.19	4.47	4.61	4.56	6.26	6.18	5.74	4.90	3.64	2.89	2.72	2.44	1.32	1.70	2.44	2.10	4.51	4.39	4.01	3.57	2.51	3.21	3.06	2.93	4.23	5.60	3.68	3.21	1.80	2.93	2.73	2.63	4.18	3.86	5.10	4.82	2.59	2.57	3.08	2.22

Table showing Comparison by Months of number of days in which rain fell, and total precipitation at Kendal Green, Roberts Dam, Fresh Pond, and Harvard Observatory, December 1, 1890 to December 1, 1891.

		1890.	1991.											
		Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Total.
Kendall Green.	No of days in which rain fell.	9	11	13	8	5	5	7	7	9	4	10	5	93
	Total precipitation.	5.55	6.91	5.19	6.26	3.64	1.32	4.51	2.51	4.23	1.80	4.18	2.59	48.69
Roberts Dam.	No. of days in which rain fell.	5	9	13	9	5	5	7	7	9	7	7	7	90
	Total precipitation.	5.17	6.14	4.47	6.18	2.89	1.70	4.39	3.21	5.60	2.93	3.86	2.57	49.11
Fresh Pond.	No. of days in which rain fell.	5	15	15	10	6	9	9	8	13	7	11	6	104
	Total precipitation.	4.40	6.68	4.61	5.74	2.72	2.44	4.01	3.06	3.68	2-73	5.10	3.08	48.25
Harvard Observatory.	No. of days in which rain fell.	5	14	13	10	6	7	8	7	11	6	9	6	102
	Total precipitation.	5.04	7.09	4.56	4.90	2.44	2.10	3.57	2.93	3.21	2.63	4.82	2.22	45.51

REPORT

OF THE

SUPERINTENDENT OF STREETS.

To the Honorable the City Council :—

GENTLEMEN: In accordance with the requirements of the ordinance relating to streets, I have the honor to submit my second annual report for the year ending November 30, 1891.

The appropriation for "Street Department, Maintenance," including building, repairing and cleaning streets, and the collection of ashes was	$111,373 65
Amount expended	111,371 15
Balance unexpended.	$2 50

The detailed account of expenditures of this department, as per Auditor's report, is as follows:—

Street Department, Maintenance.

For Salary of Superintendent, E. H. Reed	$1,700 00
Labor, as per pay rolls.	65,359 17
Labor, Sewer Department	21 15
Teaming other than done by the department	13,040 33
Blankets and robe	107 00
Bricks	35 50
Carpentry	31 06
Carriage hire for committee	162 13
Carriages and repairs	503 83
Car tickets.	25 00
Cash for sundries, E. H. Reed	23 16
Directories	12 50
Doors, windows, etc.	46 65
Fuel	579 39
Furniture	30 75
Gas	214 08
Gravel	68 30
Amount carried forward	$81,960 00

Amount brought forward	$81,960 00	
For hardware, tools and repairs	994 85	
Harness and repairs	873 86	
Hay, grain and straw	6,001 89	
Horses	2,375 00	
Horse shoes	39 58	
Lanterns, repairs and gas fittings	49 54	
Lumber, lime and cement	1,319 92	
Machine and engine work	2,294 03	
Mason work.	429 00	
Moving building	55 00	
Packing, belting and rubber goods	186 02	
Paint, varnish and oil	446 56	
Plumbing	157 46	
Printing, stationery and stamps	210 18	
Refreshment for Committee	37 50	
Rent of part of wharf	275 00	
Reports	6 75	
Road machine	502 75	
Setting and repairing fountain, etc	107 98	
Stone, cracked	7,578 61	
Stone, field	2,624 55	
Stone, elevator plant	2,232 50	
Street signs	290 75	
Sundries	58 07	
Supplies	205 30	
Telephone rent and tolls	58 50	
Total		$111,371 15
Balance		

The following summary shows the manner in which the above expenditures have been applied: —

Grading and patching streets	$33,707 29
Cleaning streets	13,076 25
Collection of ashes	13,945 50
Horses, purchase and exchange	2,375 00
Winter work, care of snow and ice, crushing stone, overhauling tools, carts, etc.	22,321 32
Maintenance of the department, including feed and care of horses, harness and wagon repairs, etc.	13,297 37
Stable repairs and fittings	2,824 29
Stone crusher and elevator plant	4,526 53
Superintendent's salary and office expenses	2,979 68
Tools, machines, hardware, etc.	2,317 92
Total	$111,371 15

By reference to the above schedule, it will be seen that while the appropriation for this department is over one hundred and

ten thousand dollars, the amount actually available for construction and repairs of streets is but little more than one-quarter of that amount, and it can hardly be expected that the streets can be kept in proper condition with such a small appropriation.

The character of our streets is well known to most of our citizens to be low and flat, with poor foundations, and the material we have been obliged to use has been of most inferior quality. As early as possible the coming year we hope to obtain suitable material for top-dressing and grading the streets under favorable conditions for handling the same.

Most of the wear and tear of our streets is due to the large amount of heavy teaming through the city from the surrounding towns, this city being their main thoroughfare to Boston. The only way in which these thoroughfares can be kept in proper condition is to heavily macadamize or pave the principal streets. This means of course a larger expenditure of money, and I would recommend that a very much larger appropriation be made for this department the coming year.

In place of the inferior gravel formerly used for sidewalks we have used during the past year screenings, or stone dust from cracked stone. This material possesses the qualities of binding well and of soaking up water without making the walk muddy, and wherever we used it has given great satisfaction.

About three hundred new street signs have been made and put up throughout the city, and this work will be continued until every street in the city is properly designated. The large amount of new property acquired by the city has very much increased the cost of the care of snow and ice, as the sidewalks around all public buildings and grounds are taken care of by this department.

The following streets have been graded between the points named during the past year at a total expense of $26,230.45:—

Agassiz street, from Lancaster street to Linnæan street	$232 85
Allston street, from Magazine street to Pearl street	246 30
Ash street, from Mt. Auburn street to end	51 50
Baldwin street, from Cambridge street to Kirkland street . . .	292 00
Amount carried forward	$822 65

Amount brought forward	$822 65
Beech street, from North avenue to Somerville line	411 85
Blake street, from North avenue to Orchard street	108 00
Brewery street, from Broadway to Harvard street	75 30
Brewster street, from Appleton street to Riedesel avenue	152 70
Broadway, from Dana street to Fayette street	1,408 40
Brookline street, from Pilgrim street to Henry street	2,214 70
Carlisle street, from Prospect street to Tremont street	537 80
Cogswell avenue, from North avenue to Mead street	117 35
Columbia street, from Hampshire street to Cambridge street	113 00
Concord avenue, from Craigie street to Bond street	204 35
Crescent avenue, from Walden street to Raymond street	342 95
Dunster street, from Mt. Auburn street to Harvard street	23 30
Elliot street, from Boylston street to Elliot square	113 50
Erie street, from Pearl street to Magazine street	356 60
Hancock street, from Main street to Broadway	512 00
Harding street, from Cambridge street to Somerville line	19 50
Henry street, from Pearl street to Brookline street	528 70
Highland street, from Sparks street to Reservoir street	180 10
Inman street, from Main street to Austin street	169 90
Irving street, from Cambridge street to Kirkland street	47 20
Kirkland street, from Cambridge street to Somerville line	6,764 00
Lawrence street, from Pearl street to Magazine street	355 85
Lexington avenue, from Brattle street to end	1,538 45
Lincoln street, from Windsor street to Columbia street	82 20
Lopez street, from Pearl street to Brookline street	52 30
Mount Auburn street, from Boylston street to Putnam avenue	923 15
Mount Auburn street, from junction of Sparks street	445 10
Niagara street, from Lawrence street to Lake street	65 00
North avenue, at Alewife Brook	553 95
Pearl street, from Henry street to Putnam avenue	819 80
Prince street, from Magazine street to Pleasant street	472 80
Prospect street, from Hampshire street to Columbia street	120 50
Quincy street, from Kirkland street to Harvard street	117 80
River street, at new engine house	25 10
Rockingham street, entire	208 95
Sidney street, from Front street to Green street	190 50
Sixth street, from Spring street to Bent street	1,482 40
State street, from Village street to Front street	620 60
Summer street, from Cambridge street to Kirkland street	81 70
Third street, from Spring street to Otis street	276 40
Third street, from Vine street to the bridge	1,528 50
Trowbridge street, from Broadway to Kirkland street	68 40
Tufts street, from Magazine street to Pearl street	385 30
Union street, from Lincoln street to Hampshire street	45 00
Valentine street, from Pearl street to Brookline street	45 70
Waterhouse street, from North avenue to Garden street	382 15
Watson street, from Pearl street to Brookline street	119 00
Total	$26,230 45

During the past year $7,476.84 has been expended in patching and "minute repairs" on nearly all the streets in the city, and while this work is not entirely satisfactory, we shall be obliged to continue the policy until the appropriations can be made large enough to allow more grading to be done, and to reduce the amount of patching necessary.

The following streets have been accepted during the past year: —

Munroe street, Third to Sixth street,	December 4, 1890.
Inman street, Harvard street to Broadway,	December 24, 1890.
Tannery street,	May 13, 1891.
Creighton street,	June 3, 1891.
Carlisle street,	June 10, 1891.
Wicklow street,	June 17, 1891.
Kildare street,	June 17, 1891.
Farrar street,	September 30, 1891.
Holden street,	September 30, 1891.
Pemberton street,	October 14, 1891.
Fairfield street,	October 14, 1891.
Windsor street, north of Cambridge street, 212 feet,	November 11, 1891,

On December 18 of this year the City Government passed an order for the widening of North avenue from Alewife brook to Clarendon avenue, and provision should be made for doing the grading necessary early in the coming year. The Committee on Roads and Bridges have also had under consideration the past year a proposition to widen Harvard street on the north side, from Main street to Harvard square. This is an improvement very much needed, and if satisfactory arrangements can be made with Harvard College, I would recommend that the work be done as early as early as possible.

Construction and Maintenance—Sundry Streets (Belmont District).

Appropriation		$12,400 00
EXPENDED.		
For Labor as per pay rolls	$3,434 00	
Catch basins, Sewer Department	34 90	
Fuel	101 60	
Lumber	36 46	
Stone	5,627 23	
Tools	62 06	
Teaming	3,103 75	
	———	$12,400 00

By an Act of the Legislature, approved April 28, 1891, the City of Cambridge was authorized within two years from and after the passage of the Act, to lay out, construct and maintain Cushing street from Woodlawn avenue to Grove street; Grove street from Cushing street to Washington street; Washington street from Grove street to Adams street; and Adams street from Washington street to Concord avenue, forty feet in width, including sidewalks, and to move the hydrants now in said streets to the side thereof, and to reconstruct, repair and maintain that portion of Concord avenue which lies between Adams street and Fresh Pond avenue, in said city, the expense of the work to be paid from the surplus receipts of the Water Board.

In July an appropriation of $10,000 was made, to which was added in November $2,400, making a total of $12,400, all of which was expended, as shown by the above account, in macadamizing Concord avenue, from Fresh Pond avenue to Adams street, 4,507 feet long and 50 feet wide. The street was ballasted to a depth of from 12 to 18 inches with material taken from the old gravel-pit and from the ledge at the Almshouse; upon this a course of cracked stone was laid from 6 to 10 inches deep, and a top dressing of stone screenings and gravel put on; each course was thoroughly packed by a steam roller, and the surface evenly rolled down. The willow trees on each side of the street were cut out, making it very much lighter, and culverts put in for surface drainage. The work has been more expensive than on an ordinary macadamized street, for the reason that we were obliged to fill back of the street line on each side, in order to hold the sidewalk and to put up a suitable fence.

We shall macadamize the remaining streets, mentioned in the Act, next year if the appropriation from the surplus receipts of the Water Board is sufficient.

Front Street, Filling and Grading.

Appropriation	$60,000 00
Amount expended	50,859 35
Balance	$9,140 65

The detailed account of expenditures in this work is as follows: —

For Labor as per pay rolls	$14,225 90
Bricks	425 02
Carpentry	49 67
Carriage hire for Committee	8 50
Fence	1,491 84
Fuel	124 45
Hardware, tools, etc,	399 24
Loam and sand	683 25
Lumber	882 52
Paving	217 24
Piles	508 62
Pipe and cement	1,032 52
Printing	1 00
Stone	23,677 14
Stone dust	101 06
Teaming	7,031 38
	$50,859 35

In July, 1890, application having been made by the City of Cambridge to the Board of Railroad Commissioners to fix the details of the crossing of the new avenue at the Boston & Albany Branch Railroad, that board determined that the crossing should be by a bridge over the railroad. An appeal from this decision was taken to the Supreme Court, which in January, 1891, reversed this decision of the Railroad Commissioners, giving the city the right to cross the railroad at grade. The avenue, 3,235 feet long and 90 feet wide, has accordingly been put in condition for travel the past season. The roadway for the whole length of the avenue was paved with Telford McAdam pavement, edgestones were set from the junction of Main street to the railroad, and the sidewalks built of cracked stone and stone dust, with a loam trench four feet wide extending the entire length, for the purpose of planting trees. The work has been very carefully and thoroughly done; an excavation of about two feet was made and heavy Milford granite ballast was laid to the depth of 18 inches. The points were broken off and used to fill the intersections, and the ballast was firmly packed by steam rollers. A course of cracked stone about six inches deep was laid upon this, which was also thoroughly rolled, and a top dressing of stone screenings completed the work. The approaches to the

intersecting streets have been built and circle and return edgestones placed at all the corners. A suitable fence has been built on both sides of the street the entire length, and the tracks of the West End Railway Co. have been laid, the space between the rails being paved with granite blocks.

A complete and independent system of surface drainage was also put in on the portion between the railroad and Harvard bridge. For this purpose 1,262.7 feet of drain was laid and twenty-three catch-basins were built.

The total expenditure for grading and setting edgestones has been $43,788.10; the cost of the drain, catch-basins, etc., was $7,071.25, making the total cost of the work $50,859.35.

The balance will be used next year in setting edgestones and building sidewalks from the railroad to the bridge, and whatever additional work may be needed.

Paving Cambridge Street.

Appropriation	$18,000 00

AMOUNT EXPENDED.

For Advertising	$52 87	
Edgestones	570 02	
Labor as per pay rolls	4,006 84	
Paving blocks	11,761 23	
Sand and gravel	246 75	
Teaming	1,353 50	
		17,791 21
Balance		$8 79

This amount has been expended, as shown above, in paving Cambridge street, from the Grand Junction Railroad crossing to Columbia street. About 7,000 square yards of granite block paving has been laid, and 1,300 feet of new edgestone set on the south side of the street. The brick sidewalk on the north side was relaid between these points, and proper crossings and driveways were put in.

I would recommend that at an early date the granite block paving on this street be continued to Inman square.

Paving, Edgestones and Sidewalks.

The appropriation for paving, edgestones, and sidewalks was . .		$30,000 00
EXPENDED.		
For Labor as per pay rolls	$16,610 88	
Labor, Sewer Department	24 00	
Bricks	4,825 14	
Lumber and cement	36 32	
Oil	94 78	
Printing	7 75	
Sand and gravel	1,424 48	
Stone	6,399 52	
Teaming	468 37	
Tools, hardware and supplies	103 43	
		29,994 67
Balance		$5 33

The following schedule shows the amount of work done under the expenditures as shown above, and also the amount of work done the previous year:—

Description of Work.	1891.		1890.	
	Square Yards.	Square Feet.	Square Yards.	Square Feet.
New straight edgestones set	....	8,675	....	12,751
New circle edgestones set	....	281	....	460
Old straight edgestones reset	....	14,684	....	8,770
Old circle edgestone reset	....	203	....	23
New brick sidewalk paved	4,173	....	4,081	....
Old brick sidewalk paved	16,630	....	5,412	....
Old crossings repaved	3,780	....	4,469	....
New North River flagstone crossings laid	....	1,858	....	1,246
Granite block paving	2,744	....	2,008	....
Gutter paved	12,838	....	8,988	....

It will be seen by reference to the above schedule, that a very large amount of repairing has been done where sidewalks have previously been laid. This work has been expensive for the

reason that in many cases it was necessary to relay the entire brick sidewalk on a street, the old bricks being of inferior quality and unfit for further use.

The present City Government has already passed an order for the purchase of three hundred thousand granite paving blocks, and the Committee on Roads and Bridges have made a contract for that amount. I would recommend that these blocks be used in paving Cambridge street, from Columbia street to Inman square, as this is one of the most heavily travelled thoroughfares in our city, it will save the large expense of patching every year. I would also recommend that the following streets between the points named be paved at once. The work could be done under a special loan and it would save the city the large amount annually expended on these streets for repairs.

Western avenue, its entire length, including Central square.

Main street, from Central square to Harvard street, River street and Prospect street.

Nothing has yet been accomplished toward the purchase of a gravel bank for the use of this department. A number of banks in different localities have been examined, but nothing entirely suitable has been found.

The city needs and should own a good gravel bank, from which we could quickly and easily obtain gravel for paving purposes, rather than be obliged, as we have been, to buy it by the load at varying prices throughout the year. I trust that steps may be taken early in the year towards supplying this, one of the chief needs of the department. I most earnestly recommend that the appropriation for this department may be sufficiently large to allow for the granting of all petitions for brick sidewalks and edgestones as far as practicable. As the abutters are obliged by law to pay the cost of material used in the construction of such sidewalks, it would seem that the policy of the city should be to encourage them in this direction, rather than by reason of an insufficient appropriation compel them to wait year after year, while the cost during that time for repairs would almost cover the outlay for new work. Aside from this the streets can be kept in better repair at a very much reduced cost to the city, after edgestones have been set.

A large number of new North River flagging crossings have been laid this year (as will be seen by reference to the schedule

of work done) and a great many of the old block stone crossings have been taken up and replaced by flagging. The need of more street crossings is becoming more apparent every year, and I would recommend that provision be made for laying a larger amount next year.

Street Watering.

The appropriation for street watering was		$20,477 80
EXPENDED.		
For Salary of foreman	$607 50	
Castings	2 19	
Conductors	26 92	
Harness	56 68	
Lumber	214 92	
Paints	226 14	
Painting	10 75	
Repairing sprinklers	19 35	
Repairing stand-pipes	12 65	
Services of Collector	25 00	
Stationery, printing, etc.	35 50	
Sprinkling contracts	16,832 86	
Tools, hardware and supplies	225 35	
Watering carts	2,175 00	
		$20,470 81
Balance		$6 99

This amount was expended in the purchase and repairs of carts, incidental expenses, and the payment of contractors for sprinkling the streets. The streets have been watered this year every day when necessary, including Sunday mornings, from April first to December first. The present system of watering the streets wholly by contract is not entirely satisfactory, and better service could be given if the principal streets and avenues were watered by the city teams, leaving only a part of the work to be done by contract.

The work this year has been in charge of a foreman, who has given his entire time to it, and under his supervision the service has been very much improved.

Five new sprinkling carts were purchased this year of the Studebaker Manufacturing Company, of South Bend, Ind. The sprinkling attachment is a new device and has given entire satisfaction. Four of these attachments have been purchased to

replace worn-out sprinklers on the old carts, the labor of this and other repairs to carts being done by our regular men at the city yard. By an act of the Legislature passed this year, the city is authorized to appropriate money for the purpose of watering all or part of the streets, and I would recommend that this work be provided for in the annual budget and relieve the citizens from the trouble and annoyance of collecting the money from door to door.

Bridges.

The appropriation for Bridges was		$24,000 00
EXPENDED.		
For Salaries of Drawtenders and Inspector	$2,676 73	
Advertising contracts	17 88	
Contracts	20,663 79	
Fuel	10 75	
Hardware	13 94	
Hoisting gears	82 80	
Iron work	2 58	
Lumber and cement	190 73	
Printing	38 00	
Securing and shifting buoy	75 00	
Stone	141 26	
Sundries	9 18	
		$23,922 64
Balance		$77 36

The condition of the bridges, under the care of this department, is shown by the following extract from the City Engineer's report:—

BOYLSTON STREET BRIDGE.

The contract for widening the passageway for vessels to this bridge was completed in the early part of the year by John Cavanagh & Son, contractors. The draw-way is now 36 feet wide, as required by the Act of Legislature.

The total cost of this work was $8,590.91, one half to be paid by Cambridge, and one half by Boston. The balance of the bridge in Cambridge will have to be replanked at an early day.

BROOKLINE BRIDGE.

The contract for widening the passageway for vessels to this bridge, awarded December 1, 1890, to W. A. Kenrick & Son, after much delay, was completed in the spring of 1891. The

cost of the work was $7,421.89, to be paid in equal shares by the two cities. The draw-way is now 36 feet wide. While the work was in progress the opportunity was taken to replank the Cambridge part of the bridge, and on February 19, 1891, a contract was made with Mr. John T. Scully to do the work. The cost was $718.50. The rest of the bridge is now in fair condition.

River Street Bridge.

The contract made with Alexander McInnis, August 9, 1890, for rebuilding the Cambridge part of this bridge and widening the Boston portion, making it a uniform width of 40 feet and giving a draw-way 36 feet wide, was finished by him in April of this year.

The cost of this work was $13,096.98, a part of this to be paid by Boston. The whole bridge is now in first-class condition.

Third and Sixth Street Bridges.

These bridges are now in good condition.

Western Avenue Bridge.

As stated in the last annual report, this was the last of the four bridges on Charles river, to receive attention, in the matter of widening the draw-way for the passage of vessels.

On March 20, 1891, a contract was made with Mr. William Miller to do this work, which was carried out in a very prompt and satisfactory manner. The bridge was closed to travel April 4, 1891, and opened again April 29, 1891, being closed to travel only 25 days. The total cost of this work was $7,578.63, to be paid equally by the two cities. The width of the opening or draw-way is now 36 feet. The portion of the bridge between that just rebuilt and the abutment on the Cambridge side is not in good condition. In many of the bents there are but four piles in the width of the bridge, to carry the top, and many of these are greatly reduced in strength by auger holes, erosion by the ice, and decay. The bridge is narrow and carries a large amount of very heavy teaming. It should be rebuilt at once, and made of a width uniform with the new work put in the past season, and that on the Boston side.

North Avenue Culvert at Alewife Brook.

An examination of this culvert showed the timber, to be so rotten that, after conference with the authorities of Arlington, it was decided to rebuild it at once.

Plans and specifications were accordingly prepared, and on the 24th day of April, 1891, a contract was signed by Messrs. Dailey and Crocket, to rebuild the structure. The work was completed August 27, 1891, at a cost of $5,523.35. The side walls of this culvert are of granite, founded on a concrete base, which is carried down to a solid clay bottom.

The arch has a span of 15 feet, a rise of five feet, a length of 98 feet and a thickness of 16 and 20 inches. It is built of hard bricks, laid in Portland cement mortar. The arch is further strengthened by four spandrel and two end walls of masonry four feet thick. The top of the arch between these walls is covered with the Portland cement, and also with three thicknesses of asphalt roofing paper cemented together and to the arch with three coats of asphalt pitch applied hot to keep the water from the masonry. Lead pipes conduct this water through the arch to the stream below. The work was well and thoroughly built by the contractors, and no settlement has as yet appeared in the arch or masonry.

Walden Street Bridge.

An examination of this bridge in the latter part of July, 1891, showed that the ends of the bottom chord timbers of the easterly truss were badly decayed, rendering the bridge unsafe for travel. The question of to whom belonged the duty of replacing or repairing the bridge was then referred to the City Solicitor for a decision.

No definite reply having been received to this question, it was finally decided, as a temporary measure, to place a new truss, adjacent to the old and unsafe one, and attach the bridge timbers to the new truss. A contract was acordingly made with Mr. William Miller, and a new truss was placed for the sum of $245.00, and the travel over the bridge resumed. When the question of responsibility is decided, a new bridge should be built at once by the party on whom the duty rests.

Shade Trees and Public Grounds.

The appropriation for this department was		$6,026 13
EXPENDED.		
For Salary of City Forester	$900 00	
Labor as per pay rolls	4,086 37	
Hose	12 30	
Ladders	11 50	
Lumber	164 87	
Manure	172 50	
Paint	28 38	
Plants, grass seed, etc.	183 40	
Rope	15 95	
Sods	258 24	
Teaming	5 75	
Tools, hardware, etc.	50 23	
Wire netting	31 25	
		$5,920 74
Balance		$105 39

This department has the care of all the commons and squares, the grounds around the Public Library, the City Hall and the new High school, and all the trees in the streets of the city. The fence around the grounds at Fort Washington Park has been painted this year and the grounds remodelled and put in order. The building of new plank walks for the commons and squares has been commenced and an increased appropriation should be made to allow for the completion of this work.

In General.

The office work of the department has been systematized, and accurate and detailed accounts are kept of all work done on the streets. Information can be obtained at the office of the cost of construction, paving, or the repairs on any given street, and the number of openings made in it during the year. Permits to open, obstruct, or encumber streets, formerly granted under petition to the Board of Aldermen, are now granted from the office, thus saving the delay to petitioners who were obliged to wait for the regular meetings of the Board. That this has been a great convenience is shown by the fact that during the year about 1,000 permits have been granted. All the supplies for the

department are purchased upon requisitions from the office, and duplicate invoices are kept for reference. A record of each horse is kept from the time of purchase to his final disposal. All accidents coming under the observation of the employés of the department are reported to the office, where as full particulars as possible, including names of witnesses, etc., are kept on file.

The schedules of sidewalks laid are now reported from this office to the Board of Aldermen, and assessments for the same are levied on the abutters as soon as the work is completed. The daily police reports of defects in streets and sidewalks are promptly attended to by the foremen, and a return is made to the office by them on blank forms of the time they receive the reports and finish the work.

The city has been divided into two districts, all the territory east of Dana street, comprising District No. 1, being in charge of Foreman J. A. Sheridan, and all west of Dana street, in charge of Foreman C. A. Brown, being designated as District No. 2.

A year's experience of this district system has shown a great improvement over the old system; each foreman is responsible for the condition of the streets in his district, and repairs are promptly and thoroughly made under his personal supervision.

The stone crusher at the City Yard has been remodelled, an elevator and bins for storing different sizes of cracked stone have been built, the engine and boiler have been thoroughly overhauled and repaired, and we shall now be able to produce cracked stone and screenings at a much reduced cost.

One of the chief causes of the wear of our streets is a lack of a sufficient number of catch-basins to carry off the surface water, and I would recommend that as many as possible be put in next year.

Schedule of the Property of the Street Department.

Land and buildings at City Yard (assessed value) . . .	$47,000 00
39 horses	9,750 00
41 watering carts	12,975 00
1 engine and stone crusher	7,000 00
2 steam road rollers	8,000 00
4 horse road rollers	1,000 00
Amount carried forward	$85,725 00

Amount brought forward	$85,725 00
28 carts	3,400 00
42 sets of harness	900 00
8 wagons	400 00
29 sleds and snow ploughs	1,875 00
Tools and stable furniture	1,500 00
1 hay rack	100 00
1 caravan	150 00
1 lawn hand cart	80 00
6 lawn mowers	90 00
3 pungs	75 00
3 street sweepers	815 00
Garden hose	125 00
250 tons of gutter stone	500 00
70,000 block stone	2,730 00
350 tons of crossing block	500 00
270 feet straight edgestone	126 90
570 feet of flagging	421 80
1 hand pump	65 00
2 "Champion" road machines	500 00
	$100,078 70

In conclusion, I desire to express my thanks to His Honor the Mayor and to the members of the Joint and Standing Committees for their generous coöperation and assistance during the year, and to the members of the City Council for their encouragement and approval.

My acknowledgements are also due to the foremen, Mr. John A. Sheridan and Mr. Charles A. Brown, and to Mr. George M. Clukas, clerk of the department, for their prompt and cheerful compliance with orders and the interest they have taken in the department.

I am also indebted to the heads of the different departments for their courtesy and consideration in matters affecting this department.

Respectfully submitted,

E. H. REED,

Superintendent of Streets.

REPORT

OF THE

COMMISSIONER ON WEST BOSTON, CRAIGIE'S AND PRISON POINT BRIDGES.

To the Honorable the City Council of the City of Cambridge:—

THE Commissioner for West Boston, Craigie's and Prison Point Bridges, submits for himself and associate the twenty-first annual report of the matters pertaining to West Boston and Craigie's Bridges, and the fifteenth annual report on Prison Point Bridge.

The repairs of the westerly bulkhead, sidewalk, and adjacent roadway, alluded to as necessary in the last report, have been made. Substantially the same plan has been adopted as the one used in rebuilding the opposite side in 1886.

The bridge has been relieved of a large amount of gravel and mud, all decayed timber has been removed, and a new sidewalk of hard pine and kyanized spruce plank has been built, and upon it a brick sidewalk, laid in sand, has been provided. The old edgestones have been reset.

The roadway plank, wherever uncovered, has been protected by a layer of soft mud, and the entire space between the curb-stone and nearest railroad track has been repaved, using the old paving blocks. A new hard pine fence has been built for the entire length.

The part of the bridge repaired as above described includes all the up-stream sidewalk between the draw and the Cambridge abutment and about 100 feet in length on the same side of the bridge next the Boston abutment. The repairs have been made by Josiah Shaw, who was the lowest bidder.

Total cost: $10,820.50; one-half paid by Cambridge.

A new boiler for the engine turning the draw, has been provided, and the turning apparatus put in good order.

The up-stream end of the draw-pier is in bad condition, and will require repairs and strengthening next season.

The plank sides of the water way are in bad condition and require attention.

The paving of the roadway and sidewalk from the draw to the Boston end will have to be repaired next year, and the bulkhead next the Charles River embankment should be repaired.

With the slight exceptions above noted, the bridge is in as good condition as it is practicable to put so old and narrow a structure, but the need of a new, wider, and more commodious bridge becomes more urgent year by year.

Canal or Craigie's Bridge.

The foundation to the engine house on the draw pier has been put in good condition. The roadway paving laid last year has done good service, and the remaining surface should be re-paved.

The fender on the up-stream side is in bad condition; the hard bottom prevents the driving of piles in the usual manner, and a different plan must be adopted to protect the bridge from vessels.

The sides of the waterway need new planking. The wooden draw shows signs of age and the piling under the Boston end will soon require attention. The bridge as a whole is in fairly good and safe condition.

Prison Point Bridge.

The draw pier has been replanked, and ordinary repairs made to the roadway and machinery for moving the draw.

In General.

The usual statement is appended of the number of draw openings and the number of vessels which passed through.

The amount of revenue received for dockage, rent, etc., during the year has been $316.70, also $1,525.50, from Boston Park Commissioners for Cambridge's interest in the old toll-house, West Boston Bridge.

Respectfully submitted,

WILLIAM J. MARVIN,

Bridge Commissioner for Cambridge, and Harbor Master on Charles and Miller's Rivers and Broad Canal.

DECEMBER 10, 1891.

Number of times the draws in West Boston, Craigie's, and Prison Point Bridges have been opened, and the number of vessels which have passed through during the year, ending Nov. 30, 1891:—

Date.	West Boston.		Craigie's or Canal		Prison Point.	
December 1, 1890, to November 30, 1891.	Number of Draw Openings	Number of Vessels Passed Through.	Number of Draw Openings	Number of Vessels Passed Through.	Number of Draw Openings	Number of Vessels Passed Through.
December, 1890	105	162	168	179	21	26
January, 1891	9	14	96	82	21	35
February, "	26	46	97	121	14	19
March, "	36	57	147	185	11	14
April, "	148	222	383	392	18	21
May, "	222	378	456	482	29	35
June, "	246	383	352	371	61	100
July, "	229	371	431	561	26	35
August, "	232	332	427	452	29	42
September, "	207	334	384	512	21	25
October, "	122	201	297	369	26	34
November, "	166	279	377	284	27	38
Total	1,748	2,779	3,615	3,990	304	424

Statement of traffic over West Boston, Craigie's, and Prison Point bridges, November 14, 1891, from 6 A. M. to 7 P. M.: —

WEST BOSTON BRIDGE.

Teams to Boston	1,322	
Teams to Cambridge	1,297	
Total		2,619
Foot passengers to Boston	2,657	
Foot passengers to Cambridge	1,939	
Total		4,596
Number of cars in service in 24 hours	125	
Passengers carried	58,263	

CRAIGIE'S BRIDGE.

Teams to Boston	2,940	
Teams to Cambridge	3,555	
Total		6,495
Foot passengers to Boston	3,990	
Foot passengers to Cambridge	3,550	
Total		7,540
Number of cars in service in 24 hours	42	
Passengers carried	18,327	

PRISON POINT BRIDGE.

Teams to Boston	975	
Teams to Cambridge	929	
Total		1,904
Foot passengers to Boston	1,152	
Foot passengers to Cambridge	1,124	
Total		2,276

REPORT

OF THE

CAMBRIDGE WATER BOARD.

To the Honorable the City Council of the City of Cambridge:—

GENTLEMEN:—The Water Board submits to you its twenty-seventh annual report, being for the year ending November 30, 1891:

Total Cost of the Water Works.

Cost of the Works November 30th, 1890, as per last year's report	$2,867,734 83
Expended during the past year	67,015 65
Making the total expenditure to November 30, 1891, to be	$2,934,750 48

Water Bond Account.

Whole amount of Water Bonds issued . . .	$2,714,900 00
Amount paid from Sinking Fund	938,400 00
Leaving unpaid Water Bonds	$1,776,500 00
From this deduct the present value of the Water Debt Sinking Fund as per the Trustees' account	814,319 45
Leaving the amount of Water Bonds yet to be provided for by the Sinking Fund in the future	$962,180 55

Statement in brief of the transactions in connection with the Water Works for the year ending November 30, 1891:—

General Construction Account.

RECEIVED.

From Bonds issued	$35,000 00
From premium on same	616 00
From advances by the city on appropriations made, but for which no Bonds have been issued	3,273, 54
	$38,889 54

EXPENDED.

On general construction account	38,889 54

Stony Brook Construction Account.

RECEIVED.

From advance by the city on appropriations made, but for which no Bonds have been issued	$4,040 13

EXPENDED.

On Stony Brook account	4,040 13

Fresh Pond Land Purchase Account.

RECEIVED.

Balance of the appropriation of 1890	$14,141 33
From bonds issued	20,000 00
Premium on bonds sold	1,178 00
	35,319 33

EXPENDED.

For purchases and settlement for estates taken, bordering on Fresh Pond	$23,724 78
Balance unexpended carried to new account	11,594 55
	$35,319 33

Water Rates, Fines and Supply Account.

RECEIVED.

From water rates	$228,773 69	
Less rates refunded	1,719 16	
		$227,054 53
Shutting off, letting on, sealing, fines and rent		2,312 78
From supply account		7,137 45
Accrued interest on bonds sold		228 89
Sale of hay, boilers, fruit, etc.		2,072 70
		$238 806 35

EXPENDED.

For maintenance account	$69,274 42
For supply account	6,810 80
For interest on Water Bonds	84,595 00
For paid into the Sinking Fund being 3½ per cent. on $1,771,500	62,002 50
For rent of box in safe deposit vault	20 00
For salary of treasurer of Sinking Fund	200 00
Transferred to street department by order of the city council, for rebuilding Concord avenue opposite Fresh Pond Reservoir lands	12,400 00
Amount carried to Sinking Fund for 1891	3,503 63
	$238,806 35

Comparative Statement of Receipts.

Water rates for the year 1890	$231,116 62
Water rates for the year 1891	227,054 53
Showing decrease of water rates in 1891	$4,062 09

Comparative Water Supplied.

	Gallons.
Amount of water pumped in 1891	1,778,056,773
Amount of water pumped in 1890	1,638,550,512
Showing an increase over 1890	139,506,261

How the Water was Used.

	Gallons.
Amount of water sold by meter	426,191,350
Amount used in watering streets	64,505,000
Amount used for domestic fire, fountain, and all other purposes	1,287,360,423
	1,778,056,773

Statement of Daily Consumption.

	Gallons.
Daily average pumping for the year for the high service through the stand pipe . . .	453,278
Daily average pumping for the year for the low service or Reservoir service	4,418,111
Making the daily average pumping	4,871,389

Showing the Daily Increase of Consumption of Water During the Past Five Years.

Daily increase in consumption of water in 1887	476,307
Daily increase in 1888, over 1887	276,547
Daily increase in 1889, over 1888	44,078
Daily increase in 1890, over 1889	307,155
Daily increase in 1891, over 1890	382,209

Comparative Rainfall and Height of Water in the Fresh Pond Storage Reservoir for Four Years.

Months.	Rainfall.				Water in the Reservoir below 16.85, High Water.			
	1888.	1889.	1890.	1891.	1888.	1889.	1890.	1891.
	Inches.	Inches.	Inches.	Inches.	Feet.	Feet.	Feet.	Feet.
December, 1890	4.22	6.67	3.36	4.40	8 55	.91	1.10	.58
January, 1891	3.32	6.64	2.94	6.68	5.37	.55	1.62	.72
February, "	3.95	2.81	5.22	4.61	3.69	1.07	1.20	.59
March, "	5.55	3.29	7.02	5.74	1.72	1.03	1.06	.32
April, "	2.60	3.73	4.83	2.72	1.14	.88	.32	.30
May, "	6.36	5.65	6.09	2.44	.81	.87	.67	.31
June, "	3.25	3.44	3.51	4.01	1.12	.62	1.01	1.05
July, "	2.87	8.53	2.77	3.06	2.39	1.28	2.32	2.15
August, "	7.08	3 78	3.48	3.68	3.75	.84	2.17	3.96
September, "	8.28	5.30	4.05	2.73	3.24	2.06	1.92	3.57
October, "	4.83	3.73	9.31	5.10	1.37	2 81	2.06	2.51
November, "	7.70	6.51	1.28	3.08	1.25	1.75	.94	2.27
					Average.	Average.	Average.	Average.
Result for the year.	60.01	60.08	53.80	48.25	2.87	1.22	1.36	1.53

Stony Brook Water Supply.

It will be seen by the foregoing table that the rainfall during past year has been the smallest for four years, and is nearly 12 inches less than the years of 1888 and 1889, and yet by the record kept it is ascertained that more than eight thousand three hundred million gallons of water, flowed over our dam into Charles River, besides what we drew into Fresh Pond Reservoir for our supply, being more than four times the amount we used. Arrangement was made this year with Waltham and Weston, so that we might draw the water from Stony Brook Reservoir after it ceased to flow over the dam, and no water was wasted during the months of October and November. We think the restriction on our using the water from Stony Brook Reservoir should be permanentlyremoved, certainly until Waltham and Weston, or either of them shall come and take a part of the water which is reserved for them in our Act.

Around Fresh Pond Reservoir.

The Sisters of St. Joseph have vacated the premises which were occupied by them, and during the coming season we propose to improve this place by removing the buildings, cutting out the dead and superfluous trees, and continue the driveway through the grove to connect with that on the shore of the Reservoir. The driveway in front of the Fresh Pond Ice Company's buildings has been built during the past season, and there remains only a short section of some some six or seven hundred feet in front of the Boston Ice Company's buildings, to be constructed to complete the driveway around the Reservoir. When this is done there will be one of the most attractive drives and walks anywhere in the vicinity of Boston. The approaches to this place are not all that might be made, and we hope the city will do all it can to improve, and help others to improve, the approaches and surroundings, of this, one of the most beautiful places in our city. It is the intention of the Board during the coming season to sell all the buildings that we do not need, on the land belonging to the city around the Reservoir, and to put the other ones that we do need in their proper places, and in good repair for use. The work of filling and grading the low places around the Reservoir has been continued during the season with gratifying results. A few years more of this work will finish this grading and all unsightly places will disappear, under the plan we have thus far pursued. We think it is desirable that this work should progress faster.

There are still three takings around the Reservoir unsettled, the same as last year, the Boston Ice Company's, Dr. Somer's, and Mr. Smith. An award by the Commissioners has been made in the case of the Boston Ice Company, but as yet has not been accepted by either party. In the other cases, the whole matter has been presented, and is now in the hands of the Commissioners, from whom we expect to hear at an early day.

Stony Brook Reservoir.

Everything about the gate-house, dam and basin, is in good condition; very few repairs have been needed, and they have

been made by the man in charge at that place. The importance of using this storage Reservoir in connection with our water supply is seen more and more each year.

Some of the claims for takings of land in connection with Stony Brook, have been settled during the year past, and the Commissioners' award in the Sibley case has been made, but it is not yet accepted by either party; some points in the case have been referred to the court, for its interpretation of the law in the case, to determine how much our taking covered, if anything, in the matter of machinery. There are now unsettled only a very few small claims in connection with the land takings about Stony Brook.

Our Feeding Reservoir and High Service.

The wall on Reservoir street which was begun last year, has been completed, and is a first-class work in every respect. The rebuilding of this wall revealed to us the loose and unsatisfactory manner in which it was built, and led to an examination of the other parts of the wall on Reservoir and Highland streets; we found the same trouble here, but the wall being so much lower, the danger was not great as in that portion which was rebuilt; small openings were made in the wall in some places, and great quantities of grout were run in to fill up the open places in the wall. In the spring we intend to go over the rest of the wall and strengthen it, in this way, when we think nothing more will be required on the walls of this Reservoir for a long time to come; both parts of this Reservoir have been thoroughly examined, repaired and cleaned out this year.

The long talked of chronograph house has been built adjoining the stand-pipe, and now furnishes a means of detecting any large leaks, or waste of water by an automatic night-registering of the amount drawn from the Reservoir.

The low service has been better served the past year than ever before, owing to the increased head of fourteen feet that was added last year at the stand-pipe.

The high service works well during the time that the high service pump is run, but during the night there is no head sufficient to supply in the buildings on the high lands above their basements, and their only remedy is in large tanks filled during

the day time; there are well grounded complaints on this account. We have every year applications requiring more use of the high service, and the time is near at hand when a larger pump will be required to meet the demand, and the erection of a large stand-pipe which will not only furnish the pressure needed but also furnish sufficient storage capacity to supply the night consumption of those on the high service. Until this is done we see no way to meet this demand fully, except to run the present high service pump all night, which is now stopped at ten o'clock P. M.

Drain on the West Side of Reservoir.

The water on the meadows has still continued so high, that we have not been able to put in this drain, and we do not think it will recede enough for us to do this work until the cross drains on the meadows are cleared out and deepened. We shall do this work at the earliest practicable moment.

Concord Turnpike.

By an act of the Legislature of last winter, the White estate in Belmont was annexed to Cambridge. In the act it was provided that Cambridge should widen Adams, Grove and part of Cushing street, and put them in good condition within two years, and to pay for the expense of the same, and for putting Concord avenue in good repair, from Adams street to the Watertown Branch Railroad, the city might take the necessary sum from the surplus water rates. Under this provision that part of Concord avenue named in the act, has been rebuilt during the past season by the street department, and the City Council have appropriated from the water rates $12,400 to pay for the same. During the coming year the other streets named in the act, will have to be rebuilt, which will require another appropriation from our water rates to pay for the same. A very great and much needed improvement has thus been begun.

Water Rates.

Last year we recommended a reduction in the water rates of ten per cent. The reduction was made, and it was very popular as such things always are.

After that the act above referred to was passed, which will for two years take a large sum from our receipts and leave but a small sum to go into our sinking fund from the surplus water rates. Had we known last year what has transpired since, we should not have recommended the reduction. If, however, in the judgment of the City Council the reduction should be continued, and further improvements around the Reservoir be provided for by issuing water bonds, instead of taking the surplus water rates, as we have been doing, then we would recommend a revision of the water rates, reducing them about ten per cent.

A revision was recommended in the inaugural address of the mayor, and we think would be better for the city and more equitable to the water takers than a percentage discount.

In and about the Engine House.

The work on the high service pump which was spoken of last year has been done, as well as it could while the pump was in commission. The roof of the engine house continues to leak, showing that the tin has become rusted out in many places, and it should be re-covered with copper to make a good and permanent job of it. The house on Concord avenue owned by the city has been moved down near the engine house, on Lakeview avenue, and fitted up neatly and conveniently for our assistant engineer. The house occupied by our pumping engineer, Mr. Brooks, who has been with us so many years, is now too small to conveniently provide for his naturally increased family. One of the houses which belonged to the Sisters, we think can be moved down near the engine house and fitted up for his use, at no great expense, which will give him the room he needs by utilizing what we have on hand.

It has long been felt by the Board that the house now occupied by Mr. Brooks, is too near our coal sheds, and engine house, that in case of fire it would endanger our entire pumping plant, and might for the time being entirely cut off our water supply to the city. As soon as another place is provided for the engineer, this house should be removed to some place away from our Pumping Station. The covering on top of our chimney has become worn and must be re-covered. Our engineer recommends cast-iron as the best material to be used in this place.

Work that Must be Done.

It seems to us that much more than the usual amount of work will have to be done the ensuing year than for several years past, for in addition to the regular work of the department, in putting in supplies, etc., there will be more than twenty thousand feet of pipe to be laid in place of those now too small, many of them partially, and some of them nearly, filled up with incrustations, which prevent the proper flow of the water for fire, and domestic uses. For this work your honorable body has already made the necessary appropriation. Some of the pipe contracted for has already arrived, and as early in the spring as the weather will permit, this work will be rapidly pushed to completion.

The work of removing the ice-houses, and other buildings about the Reservoir which are not needed; the moving and refitting what buildings we do need, and finishing the driveway around the Reservoir; the building of Larch street from the depot to Fresh Pond Lane, and widening and constructing the lane up to the seventy-foot avenue which crosses the lane, are all things that ought to be done the ensuing year, and also the improvement of the Grove now vacated by the Sisters of St. Joseph.

Other Work that Should be done the Coming Year.

The removal of the ice-houses, and other buildings, and the completion of the driveway, make it more desirable than ever that the low and unsightly places around the Reservoir, covered with stagnant water, should be filled up and graded to make our water supply safe from any contamination from these sources, and present a clean and attractive appearance to all who seek health and pleasure in driving or walking around the storage Reservoir. This work has been progressing slowly year by year, with most excellent results, apparent to all who visit the place. So far it has been done with teams to advantage, because the haul was short; but we are now coming to sections which will require a much longer haul, if we take the filling material from where we ought to, and thus make the work of grading more expensive than it need be, besides progressing very slowly. We have had interviews with the officials of the Fitchburg railroad, in regard to their filling the low land on the Dr. Somers

land, of which there are several acres, and some of the Boston ice companies, between the ice houses, either to furnish the material themselves, or lay a track to the Gay bank on our land; also to ascertain upon what terms they would lay a track for us and furnish us with an engine and trains of dump cars, as they did when we dug out the bottom of Cambridge Nook. If some suitable arrangement can be made with them in this direction, it would be well to do the work this way and to commence and finish it as soon as possible. We think this is worthy of serious consideration.

The City Council having decided that this properly comes under the head of "Construction account" and can properly be provided for by the issuing of Water Bonds, we can see nothing in the way of prosecuting this work as above set forth. We think that thus it will be done more economically, and our present citizens will have the pleasure of much sooner enjoying the driveway, and pleasant scenery about the Reservoir, and see that our Storage Reservoir is in a clean and beautiful spot.

Remarks.

For a detailed statement of what has been done, and the present condition of the Water Works, we would refer you to the reports of the Superintendent, Registrar and Pumping Engineer, made to us, which we herewith submit to you as part of our report.

We cheerfully attest to the faithfulness of all the officers, and workmen in the Water Department, who have served the city well. The City Solicitor has had much to do the past year in our damage cases, and has attended to each case promptly. We trust that this part of his labors is now drawing to an end.

Our experience shows us that our measures to secure an additional water supply were taken none too soon. While other large cities have been in great fear lest their water supply should fail, we have been free from anxiety on this account, having all that we needed.

Respectfully submitted,

C. W. KINGSLEY,
JAS. M. W. HALL,
L. M. HANNUM,
JOHN F. O'BRIEN,
GEO. H. HOWARD,
} *Cambridge Water Board*

REPORT

OF THE

WATER REGISTRAR.

WATER REGISTRAR'S OFFICE,
CAMBRIDGE, December 3, 1891.

To the Cambridge Water Board: —

IN compliance with the requirements of the City Ordinance, I present the twenty-seventh annual report of the operations of this department, showing the receipts, expenditures and abatements, together with a statement of the number of water takers, etc., for the year ending Nov. 30, 1891.

Amount of bills remaining unpaid Nov. 30, 1890: —

Water rates	$278 85
Meter rates	160 70
Supplies and repairs	1,717 97
Off and on	9 00
Seals	3 00

Amount of bills placed in hands of City Treasurer for collection from Nov. 30, 1890, to Nov. 30, 1891: —

Water rates	$182,504 82	
Meter rates	49,584 50	
Supplies and repairs	7,648 19	
Off-and-on water, rents, seals and fines	2,386 53	
Total bills		$244,293 56

There have been collected: —

Water rates	$228,773 69
Off and on water, rents, seals and fines	2,312 78
Supplies and repairs	7,137 45

There have been abated: —

Water rates	$3,088 90
Supplies and repairs	32 30

There remain unpaid: —

Water rates	$532 45	
Meter rates	158 83	
Supplies and repairs	2,196 41	
Off and on	47 00	
Seals	5 75	
Rent	8 00	
		$244,293 56

Expenditures.

Construction account (Stony Brook)	$4,040 13	
Construction account (Fresh Pond land purchase)	23,724 78	
Construction account (general)	38,889 54	

Maintenance account, viz.: —

Care and repairs	$51,106 61		
Pumping service	12,154 31		
Office expenses	4,013 50		
Rent of offices and shop	2,000 00		
		$69,274 42	
Supply and repair account		6,810 80	
			$142,739 67

Abatements.

Water rate bills to the amount of	$3,088 90	
Supply and repair bills to the amount of	32 30	
		$3,121 20

Refunds.

Water rates to the amount of	$1,719 16	
Which amount deducted from the receipts	228,773 69	
Leaves net receipts for water	$227,054 53	
Add off-and-on water, rents, seals and fines	2,312 78	
Makes net receipts of "Rates, fines, etc."		$229,367 31

Off and On.

Water has been shut off for non-payment of rates or per order on account of vacancy, and seals have been applied to fixtures by request of owners or occupants as follows: —

Supplies shut off in 1891	474
Supplies let on, shut off in 1891	328
Supplies let on, shut off in previous years	66
New supplies let on	380
Seal locks applied to fixtures in 1891	633
Seal locks removed, put on in 1891	266
Seal locks removed, put on in previous years	258

Comparative Statement.

	1890.		1891.	
Construction Acc't (Stony Brook).				
RECEIVED.				
From City of Cambridge (cash advanced for pay't of sundry bills).	.....	.....	$4,040 13	
Balance of appropriation.....	$11,346 50			
Expended in excess of bonds issued (cash advanced by city).....	361 20			
		$11,707 70		$4,040 13
EXPENDED.				
Sundry bills.	.....	$11,707 70	.....	$4,040 13
Construction Acc't (Fresh Pond Land Purchase.				
RECEIVED.				
Balance of appropriation.....	$727 97	.....	$14,141 33	
From bonds issued.....	200,000 00	.....	20,000 00	
From premium on bonds.....	12,120 25	.....	1,178 00	
		$212,848 22		$35,319 33
EXPENDED.				
Purchase of sundry estates, etc....	$198,706 89	.....	$23,724 78	
Balance of appropriation.....	14,141 33	.....	11,594 55	
		$212,848 22		$35,319 33
Construction Acc't (General).				
RECEIVED.				
From excess of receipts from "Rates, fines, etc."	$46,917 51			
Sale of pump, pulleys, shafting, etc.	69 64			
From premium on bonds.....	.....	.....	$616 00	
From bonds issued.....	.....	.....	35,000 00	
Cash advanced by city (Expenditure in excess of bonds issued) ..	.....	.....	3,273 54	
		$46,987 15		$38,889 54
EXPENDED,				
Sundry bills.....	.....	$46,987 15	.....	$38,889 54
Maintenance Account.				
RECEIVED.				
Accrued interest on water bonds...	$627 77	.....	$228 89	
Sale of engine, boilers, etc.....	436 68	.....	1,022 70	
Rent from Fresh Pond Ice Co	.....	.....	1,050 00	
From "Rates, fines, etc.."	232,009 01	.....	229,367 31	
		$233,073 46		$231,668 90
EXPENDED.				
Care and repairs	$40,037 70	.....	$69,274 42	
Interest on water debt.....	82,195 00	.....	84,595 00	
Paid to Sinking Fund Commissioners.....	48,945 00	.....	62,002 50	
Salary of Treasurer of Sinking Fund	.....	.....	200 00	
Rent of box in Safety vault.....	.....	.....	20 00	
		$171,177 70		$216,091 92
Excess of receipts.....	.....	$61,895 76	.....	$15,576 98
Supply Account.				
Received	$6,592 38	.....	7,137 45	
Expended	5,625 24	.....	6,810 80	
Excess of receipts.....	.....	$967 14	.....	$326 65

1890.	Maintenance Account, excess of receipts.....	$61,895 76
	Supply Account, excess of receipts.....	967 14
	Excess of total receipts over total expenditures.....	$62,862 90
	Expended on Construction Account (general).....	46,917 51
	Balance due Sinking Fund.....	$15,945 39
1891.	Maintenance Account, excess of receipts	$15,576 98
	Supply Account, excess of receipts.....	326 65
	Excess of total receipts over total expenditures.....	$15,903 63
	Transferred to Street Department by order of City Council.....	12,400 00
	Balance due the Sinking Fund.....	$3,503 63

The excess of receipts for 1891, as shown in the above comparative statement, amounting to three thousand five hundred three and $\frac{63}{100}$ dollars has been carried to the Sinking Fund, as required by law.

Statement of the yearly revenue received from water rates since the purchase of the works by the city :—

From	April	28,	1865,	to Dec. 1,	1865	$32,367 19
"	Dec.	1,	1865,	" 1,	1866	40,073 27
"	"	1,	1866,	" 1,	1867	52,733 62
"	"	1,	1867,	" 1,	1868	63,747 42
"	"	1,	1868,	" 1,	1869	76,149 30
"	"	1,	1869,	" 1,	1870	92,606 95
"	"	1,	1870,	" 1,	1871	111,782 65
"	"	1,	1871,	" 1,	1872	127,201 30
"	"	1,	1872,	" 1,	1873	146,117 32
"	"	1,	1873,	" 1,	1874	153,634 27
"	"	1,	1874,	" 1,	1875	138,880 37
"	"	1,	1875,	" 1,	1876	179,166 76
"	"	1,	1876,	" 1,	1877	154,843 59
"	"	1,	1877,	" 1,	1878	157,443 91
"	"	1,	1878,	" 1,	1879	164,681 90
"	"	1,	1879,	" 1,	1880	173,325 49
"	"	1,	1880,	" 1,	1881	170,062 73
"	"	1,	1881,	" 1,	1882	177,430 80
"	"	1,	1882,	" 1,	1883	179,361 89
"	"	1,	1883,	" 1,	1884	161,526 27
"	"	1,	1884,	" 1,	1885	185,544 36
"	"	1,	1885,	" 1,	1886	199,404 43
"	"	1,	1886,	" 1,	1887	204,748 64
"	"	1,	1887,	" 1,	1888	211,156 27
"	"	1,	1888,	" 1,	1889	221,124 70
"	"	1,	1889,	" 1,	1890	231,116 32
"	"	1,	1890,	" 1,	1891	227,054 53

In addition to the manufactories, etc., supplied by meter, water is supplied to 17,351 families, 1,044 stables, with 2,797 horses and 374 cows, 265 shops, 622 offices and stores, by the following fixtures, viz : —

19,774	faucets,	7	hopper-closets,
5,729	wash-basins,	96	urinals,
4,586	wash-tubs,	35	yard-hydrants,
3,687	bath-tubs,	5	fountains,
703	slop-closets,	17	tumbler-washers,
11,642	pan-closets,	1,557	hand-hose.

Also,

695 fire hydrants (besides 19 on private premises),
8 fire-reservoirs,
17 drinking-fountains in public squares,
53 street watering stand-pipes.

The above schedule of fixtures is exclusive of the school houses, engine houses, police stations and other city buildings.

A careful house-to-house inspection of the service pipes and fixtures on the premises has been made, resulting in the repair of defective pipes and fixtures, and a consequent saving in water. The promptness with which leaks and imperfect fixtures are repaired, after notice is sent from this office, is worthy of special mention, as showing the desire of our citizens to comply with the requirements of the city ordinance, and prevent a waste of water. In fact, it has not been necessary for the past seven years to impose a fine for neglect to repair imperfect fixtures or prevent waste.

I repeat the recommendation of former years: That an additional Inspector be appointed. As arranged at present, we have one permanent Inspector whose entire time is occupied by pressing duties to the exclusion of work which I consider necessary to be done.

Four months in every year an additional man is employed to assist in making a canvass of the city for fixtures added, leaks and waste of water. The salary paid amounts to $260.00. The entire time of a competent man can be secured for $520.00 a year additional, and he can more than earn that amount by keeping on the lookout for users of hose who have not paid rates therefor; and when the hose season is over there is a variety of other matters to be investigated sufficient to occupy his entire time.

To illustrate how a man may easily earn his salary: The Registrar spent three afternoons last summer looking for users of hose with the result of making charges amounting to over $130, nine charges being made to the residents on one street. Last spring, on account of the increase in the office business, an assistant was employed for three months at an expense of $75.00. The additional Inspector could do this office work. In fact there are numberless ways in which an intelligent man can be utilized to the advantage of the city. Our present system of hiring a

man in the fall to assist in canvassing, and discharging him in the spring is a faulty one for the reason that the same man cannot with any certainty be secured from year to year, and consequently equally effective service is impossible. It is necessary, in order to have the canvas carefully and thoroughly made, that the man making it be familiar with the premises inspected. In my seven years service as Registrar, there have been four different Assistant Inspectors employed, and it is evident that a man who is here today and somewhere else tomorrow cannot be expected to do his work as thoroughly as a permanent employé, who can be held responsible throughout the entire year for any carelessness or neglect in the performance of his duties.

The Inspectors have reported a large number of additional fixtures added this year, principally water-closets to replace privy-vaults removed, for which water-rate charges have been made.

Respectfully submitted,

WALTER H. HARDING,

Registrar.

REPORT

OF THE

COMMITTEE ON ACCOUNTS OF THE CAMBRIDGE WATER BOARD.

We have examined the abstract of accounts as presented to us by the Water Registrar, covering the records of the past year. We have compared it with the statements submitted to us by the City Treasurer and Auditor, and we find it to be correct. Annexed is the financial statement presented to us by the Water Registrar, and verified by us: —

Amount of bills in hands of City Treasurer, November 30, 1890: —		
For water rates	$439 55	
For supplies and repairs	1,717 97	
For off and on and seals	12 00	
		$2,169 52
Amount of bills delivered to the City Treasurer for collection during the year ending November 30, 1891: —		
For water rates	$182,504 82	
For meter rates	49,584 50	
For supplies and repairs	7,648 19	
For off and on, rent and seals	3,436 53	
For old engine, boiler, etc.	1,212 93	
		$244,386 97
Total bills		$246,556 49
There have been collected	$240,296 62	
There have been abated	3,121 20	
Balance uncollected Nov. 30, 1891, water rates	691 28	
Balance uncollected Nov. 30, 1891, supplies and repairs	2,196 41	
Balance uncollected Nov. 30, 1891, off and on and seals	52 75	
Balance uncollected Nov. 30, 1891, maintenance account	190 23	
Balance uncollected Nov. 30, 1891, rent	8 00	
		$246,556 49

Total collections on rates, fines, etc., and supply and repair accounts	$240,296 62	
Less refunded	1,719 16	
Net collections		$238,577 46

JAS. M. J. HALL,
ALPHEUS B. ALGER,
EDWD. C. WHEELER,
Committee on Accounts.

CAMBRIDGE, Dec. 1, 1891.

CITY OF CAMBRIDGE,
OFFICE OF CITY TREASURER,
December 1, 1891.

To the Cambridge Water Board:—

GENTLEMEN: I give you herewith a record of the transactions between the Water office and the City Treasurer's office during the year ending November 30, 1891:—

Gross collections for account of "Water works, rates, fines, etc."	$234,175 37
Abatement certificates received and paid on "Water rates"	3,088 90
Gross collections on account of "Water works, supply account"	7,169 75
Abatement certificates received and paid on "Supply account"	32 30
"Refund checks" have been presented and paid to the amount of	1,719 16
The *uncollected bills* in my hands November 30, 1891, for account of Maintenance and "Water rates" is	942 26
The *uncollected bills* in my hands November 30, 1891, for account of "Supplies, repairs," etc., is	2,196 41
The gross collections on account of "Water works, maintenance" is	2,072 70

Respectfully,

WM. W. DALLINGER,
City Treasurer.

OFFICE OF CITY AUDITOR, CITY HALL,
CAMBRIDGE, DECEMRER 1, 1891.

To the Cambridge Water Board:—

GENTLEMEN: I herewith present a statement from my books for the year ending, Nov 30, 1891.

WATER WORKS (RATES, FINES, ETC.)

Amount of uncollected bills in City Treasurer's hands December 1, 1890		$451 55
Amount of bills placed in City Treasurer's hands for collection		234,475 85
Total		$234,927 40
Amount collected by City Treasurer		234,175 37
Balance uncollected		$752 03
Amount of abatements allowed by City Treasurer	$3,088 90	
Amount of refunds paid City Treasurer	1,719 16	

WATER WORKS (SUPPLIES).

Amount of uncollected bills in City Treasurer's hands, December 1, 1890		$1,717 97
Amount of bills placed in City Treasurer's hands for collection		7,648 19
Total		$9,366 16
Amount collected by City Treasurer		7,169 75
Balance uncollected		$2,196 41
Amount of abatements allowed by City Treasurer	$32 30	

WATER WORKS, MAINTENANCE.

Amount of bills placed in City Treasurer's hands for collection	$2,262 93
Amount collected by City Treasurer	2,072 70
Balance uncollected	$190 23

Respectfully submitted,

HARRY T. UPHAM,
City Auditor

ANNUAL STATEMENT OF THE WATER REGISTRAR TO THE COMMITTEE ON ACCOUNTS, DECEMBER 1, 1891.

Water rates unpaid, Nov. 30, 1890	$439 55
Off-and-on bills unpaid, Nov. 30, 1890	9 00
Seal bills unpaid, Nov. 30, 1890	3 00
Amount carried forward	$451 55

Amount brought forward		$451 55	

Bills placed in hands of City Treasurer for collection from Nov. 30, 1890, to Nov. 30, 1891: —

Water rates from annual ledgers	$170,161 20		
Water rates from fractional ledger	12,343 62		
Water rates from meter ledger .	49,584 50		
Off and on water	498 00		
Rent	2,834 53		
Seals	104 00		

Maintenance account: —

Engine, boiler, etc., at Fresh Pond	1,212 93		
		236,738 78	
Total bills on rates, fines, etc. .		$237,190 33	
Supply and repair bills unpaid Nov. 30, 1890	$1,717 97		
Supply and repair bills placed in hands of City Treasurer for collection from Nov. 30, 1890, to Nov. 30, 1891	7,648 19		
		9,366 16	
Total bills			$246,556 49

There has been collected: —

Annual ledgers	$169,458 20		
Fractional ledger	9,781 17		
Meter ledger	49,534 32		
Off-and-on water	436 00		
Rent	2,826 53		
Seals	100 25		
Sale of engine, etc.	1,022 70		
Total collections on rates, fines, etc.		$233,159 17	
Collections on supply and repair account		7,137 45	
Total collections		$240,296 62	

There have been abated: —

Water rates	$3,088 90		
Supplies and repairs	32 30		
Amounts carried forward	$3,121 20	$240,296 62	

Amounts brought forward	$3,121 20	$240,296 62	
There remain uncollected: —			
Water rates	691 28		
Supplies and repairs	2,196 41		
Off-and-on	47 00		
Seals	5 75		
Maintenance account	190 23		
Rent	8 00		
		6,259 87	
			$246,556 49
Total bills for collection . . .		$246,556 49	
Less abated	$3,121 20		
Less refunded	1,719 16		
Less unpaid	3,138 67		
		7,979 03	
Net receipts			$238,577 46

Attest: WALTER H. HARDING,
Registrar.

CAMBRIDGE, December 1, 1891.

REPORT

OF THE

SUPERINTENDENT OF THE WATER WORKS.

CAMBRIDGE, November 30, 1891.

To the President and Members of the Cambridge Water Board:—

GENTLEMEN: The annual report of your Superintendent upon the condition of the works and the operations of the year is herein presented.

The total amount of water pumped was 1,778,056,775 gallons.

The total amount of coal consumed was 2,725,600 pounds.

The coal consumed per million gallons pumped was, $1{,}532\frac{61}{100}$ pounds.

Water sold by meter and that used for watering streets and for fountains, 507,696,350 gallons, leaving the amonnt for domestic use, 1,270,360,425 gallons.

Number of gallons daily for each inhabitant on whole amount pumped, $60\frac{18}{100}$.

Number of gallons daily for each inhabitant on amount for domestic use, $42\frac{96}{100}$.

Fresh Pond and Surroundings.

The average height of the water in the receiving basin has been 15.32. It reached its highest point March 24, viz.: 16.78, and its lowest point August 26, viz.: 12.19.

On April 4, at 2 o'clock A. M., the waste gate of the basin was opened, height of water 16.76, and closed on April 8, at 4 o'clock A. M., height of water 16.56. The water in the basin was lowered by request of the Fresh Pond Ice Company in order to make it more convenient for the removal of machinery.

Water was let on from Stony Brook, August 26, at 9 o'clock P. M., height of water in Stony Brook basin, 80.94.

The water was shut off for two weeks in October on account of danger of pipe settling and joints drawing by being undermined while sewer was being laid in River street, Waltham.

The water in Stony Brook basin at this date is at elevation 75.62 or 5.38 below the crest.

The rain-fall has been 48.25 inches.

The ice canal connected with the Fresh Pond Ice Company's houses has been filled, riprapped, fenced and a roadway built and connected across Black's Nook to the north shore roadway which has been widened and extended to the premises of the Boston Ice Company, leaving only six hundred and fifty feet of roadway to be built to complete the drive around the basin.

The riprapping is in good condition and has needed but little repairing.

The fence has been painted.

The roadway has been kept clean and properly graded.

The auxiliary pumping house and wharf have been removed, greatly improving the surroundings of the basin at that point.

Work at Fresh Pond was commenced on March 17 and continued uninterruptedly with the exception of about three weeks, when on account of an accumulation of petitions for extensions of main pipes, the teams were laid off and the men taken down town.

A large amount of filling was done in Black's Nook and a few more attacks on this noted and unsightly place, in the way of filling, will entirely obliterate it.

The work of grading and filling on the west side of the pond has been continued and a large area loamed and sown down to grass.

The fence on Cushing street, commencing at Cider Mill pond and extending west to Grove street and on Grove street to the Artemas White estate, has been raised to the new grade and line and the banks, formed to correspond to new grade, have been loamed and sown down to grass.

The tool house, formerly occupied by the Fresh Pond Ice Company, has been moved to Concord avenue and connected with the water works stable.

The Sisters of St. Joseph, having vacated the premises known as "Fresh Pond Grove," the work of cutting down dead trees

and digging out stumps has been commenced. Bony Leranger, an employé of this department, is occupying one of the houses in order to look after the buildings until they are disposed of.

Nearly all of the apple trees on the south side of the basin near the fountain have been cut down, greatly improving the grounds in that vicinity.

The grass on Kingsley Park, Tudor Park, two small parks on Concord avenue and on the Black estate was sold standing. The hay from the Somers' estate, the banks around the basin and the park west of the Fresh Pond Ice Company's house was stored in the pipe yard, and Concord avenue stables and Gay barn.

The house and stable on Concord avenue are in good repair. The stable and tool house recently attached will need painting the coming season.

The buildings on the Gay estate will need quite extensive repairs. The line of the street having been changed, the small ell now projects into the street. The barn is badly out of repair and should be put in good condition for the storage of hay.

Pumping Works.

The track in the coal shed has been strengthened by placing knees under the girders supporting the track and bolting them to the girders and posts. This important improvement made it convenient to cut off the posts about three feet above the track, doing away with a serious obstruction when unloading coal. No repairs of importance have been made on the coal shed or engine house during the year.

The roof of the engine house will need to be re-covered with either tin or copper, as patching fails to prevent its leaking.

The roof on the chimney to the boiler-house is eaten out and will have to be replaced by a new one. Galvanized iron was first used; afterwards it was made of copper, but as that does not stand it is a question if a heavy cast-iron would not be more practicable.

The tin roof of the engineer's house has been repaired.

The dwelling house on the Lyons' estate has been moved to the north end of the engine house lot and a substantial fence built around it, the whole making a neat residence for the

assistant engineer and supplying a long-needed convenience in having the assistant's near the engineer's house.

The grounds and walks of the engine house lot and Tudor Park have received the necessary care.

The east side of the engine house lot will need grading in the spring in order to conform to the street grade which is now about ten inches above the lot.

The fence around the engine house lot and Tudor Park is in a very dilapidated condition and should be replaced by a new one to correspond with the fence around the assistant engineer's house.

Eight hundred and eighty-eight feet of fence has been built on Concord avenue east from Water Works stable. This fence should be continued to Tudor Park and in front of the Black estate.

Reservoirs.

The extensive repairs, commenced last year on the reservoirs, were completed in October of this year.

A much needed chronograph house has been built.

A new iron fence has been built at the north end of the wall on Reservoir street.

The iron fence around the basin has been thoroughly cleaned from rust and painted.

Both reservoirs were emptied, cleaned out and thoroughly re paired.

The old retaining walls were pointed and that portion south from the standpipe on Reservoir street filled with grout. The remainder of the old wall should be treated in the same manner in the spring. This will make lasting repairs.

The blow-offs from the reservoirs have been connected to the new sewer.

High Service.

The high service has been extended to the New City Hall and an extension of 239 feet laid on Main street west from Lee street. In making these extensions two 4-in., two 6-in. and one 10-in. check valves were used. This service will be materially relieved the coming season by disconnecting quite a large territory and attaching the same to the low service.

Stony Brook.

The daily average number of gallons by the month flowing over the waste way was as follows: —

December, 1890	17,236,606 gals.	*June, 1891	5,740,817 gals.
January, 1891	59,433,836 "	†July, "	1,393,732 "
February, "	63,216,655 "	‡August, "	344,748 "
March, "	78,825,931 "	§September, "	644,230 "
April, "	44,326,622 "	October, "	No overflow.
May, "	6,664,411 "	November, "	No overflow.

Total amount wasted, 8,247,824,826 gallons.

The screens have needed many repairs, all of which have been made by Mr. Baxter, the keeper.

The dwelling-house and stable are in good repair and all the surroundings present a neat and tidy appearance.

The town of Weston having decided to widen and straighten Central avenue west of Sibley's and abutting the city's land, it became necessary to move the wall back and slope the bank. A satisfactory arrangement was made with the selectmen of the town to do this work and in compensation they were allowed to take street gravel from the city's gravel bank in close proximity to the widening.

Stony Brook Pipe Line.

Owing to the carelessness of the contractor while building the sewer in River street, Waltham, the pipe was undermined and there being danger of settling, it was chained up. On account of the delay of the sewer contractor in hanging the pipe, a joint near the Waltham depot was started.

There have been three small leaks stopped during the year.

All the gates have been inspected, tested and their localities marked.

Pipe Yard.

The buildings at the pipe yard are in good condition, excepting the low shed between the dwelling and carriage houses, which is in such poor condition and so low and narrow that it is

*20 days only. †3 days only. ‡2 days only. §2 days only.

of but little use, and I recommend that it be removed and a large commodious building, needed for a storage room and workshop, be built in its place.

Curbing at the driveway has been set and the driveway across the sidewalk paved.

The yard has been graded in front of the buildings.

Brookline Street Bridge.

The covering on the pipe bridge is in very bad condition. It has been temporarily repaired but will need extensive repairs the coming season.

The engineer's report, statements in detail of main pipes and supplies laid, gates and hydrants set, location of fountains, standpipes, check-valves and meters, with inventory of stock and tools accompany this report; all of which is respectfully submitted.

HIRAM NEVONS,
Superintendent.

Main Pipe.

Main pipes have been laid in the following streets: 14 ft. of 6 in. in Albany st.; 9 ft. of 6 in. in Appleton st.; 160½ ft. of 4 in. and 3 ft. of 1½ in. Arnold place; 2 ft. of 4 in. in Ash st. at Mt. Auburn st.; 71 ft. of 2 in. in Athens court; 385½ ft. of 6 in. in Avon Hill st.; 3 ft. of 12 in. in Brattle st. at Mercer Circle; 360 ft. of 4 in. in Brewer st. (renewal); 66 ft. of 1¼ in. in Brewery st.; 39½ ft. of 6 in. in Brookline st, near the bridge; 154 ft. of 4 in. in Carlisle st. from Tremont st.; 2 ft. of 4 in. in Centre st.; 64½ ft. of 6 in., 32 ft. of 1½ in., and 77½ ft. of 1¼ in. in Charles st., from Sixth st. west; 468 ft. of 6 in. in Clay st. at Dudley st.; 210½ ft. of 4 in. and 3 ft. of 1½ in. in Clary st. from Prospect st., west; 71 ft. of 6 in. in Clifton st.; 7 ft. of 6 in. in Columbia st. at Broadway; 146 ft. of 4 in. in Dudley st.; 231½ ft. of 4 in. in Dunster st., from South st., west; 1006 ft. of 6 in. in Ellsworth ave. (renewal); 39 ft of 6 in. in Elm st., near Webster ave.; 13 ft. of 6 in. in Fifth st., corner of Otis st.; 52 ft. of 1¼ in. in Foster court; 144 ft. of 4 in. in Foster st.; 265½ ft. of 12 in., 11 ft. of 6 in., and 1043 ft. of 4 in. in Front st.; 249 ft. of 6 in. and 3 ft. of 1½ in. in Gibson st., from Foster st.;

180 ft. of 6 in. and 3 ft. of 1½ in. in Gorham st.; 52 feet of 4 in. in Granite st.; 620 ft. of 8 in. and 7 ft. of 6 in. in Hampshire st., from Portland st. to Broadway; 8 ft. of 6 in. in Henry st., corner of Sidney st.; 2 feet of 6 in. in Hillside ave.; 97 ft. of 4 in. in Jones alley from West st.; 320½ ft. of 6 in. in Lexington ave.; 239 ft. of 4 in. in Lincoln st., from Elm st. east; 376½ ft. of 6 in. in Line st.; 163 ft. of 4 in. and 3 ft. of 1½ in. in Locke st. frem Frank st., north; 21 ft. of 4 in. in Lowland ave., corner of Vine st.; 164½ ft. of 4 in. and 3 ft. of 1½ in. in Lyman st.; 72 ft. of 6 in. in Magee st., 239 feet of 4 in. in Main st. (high service); 79½ ft. of 2 in. in Marvin court (renewal); 302 ft. of 6 in. in Middlesex st., 7 ft. of 6 in. in Mt. Vernon st., 927 ft. of 6 in. and 158 ft. of 4 in. in Murray st. (renewal); 262½ ft. of 6 in. in Myrtle ave.; 47 ft. of 6 in. in Norfolk st., near Webster ave.; 187 ft. of 4 in. and 3 ft. of 1½ in. in Oak place; 30 ft. of 4 in. and 7 ft. of 6 in. in Otis st.; 45 ft. of 12 in. in Portland st., at Hampshire st.; 16 ft. of 6 in in Railroad st.; 170 ft. of 2 in. in Robinson court; 120 ft. of 1½ in. in Rockingham street court; 8 ft. of 6 in. in Reservoir st. at Highland st.; 6½ ft. of 6 in. in Russell st.; 291 ft. of 4 in. in Salem st. (renewal); 6 ft. of 6 in. in Sidney st. at Auburn st.; 260 ft. of 6 in. and 4 ft. of 4 in. in Thorndike st.; 64 ft. of 6 in. in Tremont st.; 356½ ft. of 6 in. in Van Norden st.; 191 ft. of 6 in. and 3 ft. of 1½ in. in Vine st.; 449 ft. of 6 in. and 3 ft. of 1½-in. in Wicklow st.; 395 ft. of 6 in. and 3 ft. of 1½ -in. in Wilbur st.; 171 ft. of 4-in. and 3 ft of 1½-in. in Wilson st.; and 257 ft. of 6-in. and 3 ft. of 1½-in. in Woodbridge st.

For the accommodation of the Sewer Department the main pipes in the following streets have been offset: Brattle st. at Hilliard st.; Brattle st. at Palmer st.; Brewer st.; Front st.; and Murray st. Our 30-in. main pipe in Waltham has been chained to prevent settling while the Waltham sewer is being laid. In Medford st., Somerville, the main has been lowered for the accommodation of the Somerville Sewer Department.

In Gore st., Somerville, at Grand Junction R. R., the main has been moved to make room for the 12-in. main which has been laid by the Somerville Water Works.

New Supplies.

Four hundred and four new supplies have been laid, making the total number laid to date, 10,958.

Twenty-four supplies have been renewed; of these six were enlarged and one renewed with lead pipe.

Fifteen old supplies have been furnished with sidewalk shut-offs and five supplies have been extended.

Supplies in the following streets have been connected to the new mains: Brewer, Lyman, Murray and Salem streets, Ellsworth avenue and Marvin court.

Leakage.

Twelve hundred and two leaks have been stopped, namely: Two on 1-in. mains, two on $1\frac{1}{2}$-in. mains, three on 3-in. mains, seven on 4-in. mains (iron) and one on 4-in. main (cement), two on 6-in. mains, four on 8-in. mains, two on 10-in. mains (cement), one on 12-in. main, three on 30-in. main (pipe line), fifty-six on supplies in streets, and eleven hundred and nineteen on premises.

Of these ten hundred and forty-one were reported by inspectors, found while canvassing, and were repaired by occupant or owner.

A general inspection of pipes and fixtures has been made.

Drinking Fountains.

No addition to the number of drinking fountains has been made by this department. The one located at Inman square has been moved to conform to the new street line. There are sixteen in use.

Standpipes for Street Watering.

Six new standpipes have been added this year. The one formerly at the corner of Main and Bow streets has been re-located at the angle in Bow street.

Gates.

All the gates have been inspected and are in good condition.

Boxes.

Twenty-nine hydrant, fifteen iron and twenty-four wooden boxes, making a total of sixty-eight, have been set in place of worthless ones removed.

Check Valves.

Five check valves have been placed on the main pipes in the following streets: one 4-in. in Lee st. corner of Harvard st.; one 4-in. in Lee st., corner of Main st.; one 6-in. in Bigelow st. corner of Main st.; one 6-in. in Clinton st., corner of Main st.; and one 10-in. in Harvard st. near Bigelow st. By these additions the New City Hall and Bigelow, Clinton and Lee sts. are now supplied from the high service. An extension of the high service has been laid in Main st. from Lee st., west, in order to sufficiently supply a large apartment house.

Street Reservoirs.

The number of street reservoirs now in use is eight.

Meters.

The number of meters in use at this date is two hundred and seventy-four.

Hydrants.

Thirty Chapman and three Perkins hydrants have been added during the year, making the number now in use 695.

Old flush hydrants located in Main st. in front of Damon's Safe Works and at the corner of Brookline and Franklin sts. have been replaced by new flush hydrants. A flush hydrant has been removed from the corner of Webster ave. and Elm st. and also one from the corner of Murray st. near which location a Chapman post has been set. Old flush hydrants have been removed and Chapman posts set at Ellsworth ave., corner of Broadway, Fayerweather and Reservoir sts., and at the corner of Webster ave. and Hampshire st.

Boston hydrants have been set in place of those removed from the corner of Austin and Douglas sts. and on Portland st. oppo-

site the rolling mill. Chapman posts have been set in place of those removed from the corner of Franklin and Pleasant sts., and from Prison Point st. where one was broken by a team. A wood post hydrant located at the corner of Albany and Front sts. has been replaced by a Chapman post. The hydrant on the hill in Mt. Vernon st. has been re-located at the corner of North ave. and Mt. Vernon st. at the request of the Chief of Fire Department.

A four-way Chapman hydrant was placed in Mechanics square. Chapman post hydrants have been set on the premises of the Maverick Oil Works on Potter st. and in the Street Department yard at the foot of Brewer st. The following hydrants are located on private premises: —

Location.	Flush.	Post.
American Rubber Company		1
Boston & Maine Railroad Company	4	3
Boston Woven Hose Company		1
Houghton & Company	2	2
Maverick Oil Works		1
Mt. Auburn Corporation	1	
North & Company		1
Page, George G., & Company		1
Street Department, Brewer street		1
Street Department, Tremont street		1
West End Street Railway Company		1

List of Meters in Use November 30, 1891.

Meter.	Location.	Size Inch.	Kind.
Alghieri, Simon	Main st	¾	Worthington.
Allen & Endicott Building Co	Main st	¾	Crown.
American Rubber Co	Potter st	4	Union.
American Net and Twine Co	Third st	2	Worthington.
Andrews, D. H	Ninth st	1½	Union.
Andrews, Dr. R. R	Harvard st	⅝	Crown.
Barbour, Stockwell & Co	Broadway	2	Worthington.
" " "	Davis st	2	Hersey.
Bay State Brick Co	Spruce st	1	Worthington.
Beiermeister, Henry (Laundry)	Binney st	1	"
Bird, H. M	Broadway	⅝	Union.
Blake, George F. Mnf'g Co	Binney st	2	"
" " " "	Third st	2	Crown.
" " " "	Third st	¾	Worthington.
" " " "	Third st	2	Hersey.
Blake, Irving	Church st	1	Worthington.
Blake, Irving	Church st	1	Crown.
B. & M. R. R., Car house	Prison Point st	2	Worthington.
" " Filling locos	Prison Point st	6	Union.
" " Hoisting engs	Prison Point st	1	Crown.
" " Paint house	Prison Point st	1	Worthington.
" " Repair shop	Bridge st	2	"
" " Round house	Prison Point st	2	"
" " " "	Prison Point st	3	Frost.
" " " " new.	Prison Point st	3	Union.
Boston Curling Club	Lexington ave	1	Worthington.
Boston Ice Co	Prison Point st	1½	Union.
Boston Stamping Co	Third st	1½	"
Boston Woven Hose Co	Hampshire st	4	Worthington.
Bragdon & Cooper	Frank st	⅝	"
Brown, L. S	Hampshire st	1½	Crown.
Bulloek, O. S	Broadway	¾	Worthington.
Burton, A. & E	Harvard st	¾	"
Buxton, George H. & Co. (Stable)	Inman sq	¾	Crown.
Cambridge Electric Light Co	Albro st	4	Worthington.
Cambridge Gas Light Co	Ash st	¾	"
" " " "	Third st	1	"
" " " "	Third st	2	"
Cambridge Hospital	Mt. Auburn st	1½	Crown.
Cambridge Y. M. C. Association	Main st	1½	Union.
Cambridgeport Diary Co	Blackstone st	1½	"
Campbell, Wm. & Co	Potter st	2	Worthington.
Carr Bros	Lopez st	1	"
Catholic Y. M. C. Association	Prospect st	⅝	"
City of Cambridge (Fountain)	Brattle and Craigie sts	⅝	Nash.
" " " "	Brattle sq	⅝	Ball & Fitts.
" " " "	Central sq	⅝	Duplex.
" " " "	Leehmere sq	⅝	Crown.
" " " "	North ave	⅝	Terry.
Chadwick Lead Works	North st	1	Worthington.
Champlin, E. R	Main st	1	Crown.
Chelmsford Foundry Co	Bridge st	¾	Worthington.
Clark, B. P. & Co	Main st	1½	Union.
Clarke Coffee Co	Reed st	1½	Worthington.
Close, George	Broadway	1	"
Cochrane Chemical Co	Potter st	1	"
Cofran, N. M	Concord ave	1½	Union.
Coleman Bros	Broadway	1	Worthington.
Coolidge & Caswell	Franklin st	2	Union.
" J. G. (barn)	Coolidge ave	2	Worthington.
" " " (greenhouse)	Coolidge ave	1	"
Cushman Bros & Co	Blanche st	¾	"
Dailey, C. W	Cambridge st	1	"
Damon Safe and Iron Works	Main st	2	Hersey.
" " " " "	Main st	1	Worthington.
Daniels, Badger & Co	Albany st	2	Crown.
Davenport, A. H	Cambridge st	2	Worthington.

List of Meters—*Continued.*

Meter.	Location.	Size Inch.	Kind.
Davenport, A. H.	Otis st	5/8	Crown.
Davis, Curtis & Co	Harvard st	1½	Worthington.
" " "	Broadway	2	"
Davis, J. C. & Co	Broadway	2	Crown.
Day Cordage Co	Rogers st	2	"
Dee, C. W.	Fresh Pond lane	2	Hersey.
Derby. H.	Main st	1	Union.
Dolan, John	Decatur st	5/8	Crown.
Dover Stamping Co	Pleasant st	6	Union.
Dow, J. C. & Co	Portland st	2	Crown.
" " "	Portland st	2	Worthington.
Downing, Theo.	Eustis court	1	Worthington.
Doyle, W. E.	Cambridge st	1½	Frost.
Dow, W. L. W.	Deaeon st	1	Worthington.
East Cambridge Club Stable	First st	1	"
Ellis, S. P. (Stable)	Oxford st	3/4	"
Episcopal Theological Seminary.	Brattle st	1½	"
Fairbanks, Mrs. N. J. (Stable)	Norfolk st	1	"
Farnsworth, T. H.	North ave	1	"
Flintze, E.	Otis st	1½	Thompson.
Folger, H. G.	Cedar st	3/4	Union.
Furfey, James	Brookline st	5/8	Worthington.
Germania Electric Co	Osborn st	1½	"
Gilmore & Eustis	Portland st	2	"
Goepper Bros.	Ninth st	1½	"
" "	Spring st	2	"
Gwynne & Co.	Brattle st	1	Crown.
Harvard College, Annex	Mason st	3/4	"
" " "	Garden st	2	Frost.
" " Boat House	DeWolf st	1	Union.
" " " "(Weld).	Bolyston st	2	Hersey.
" " Botanic Garden.	Garden st	1	Crown.
" " Boylston Hall	College grounds	2	"
" " Gore Hall	College grounds	1	Worthington.
" " Carey building	Oxford st	2	"
" " Gymnasium	Kirkland st	2	Union.
" " Harvard Hall	Peabody st	2	"
" " Hastings Hall	North ave	2	Hersey.
" " Holworthy Hall	College grounds	5/8	Worthington.
" " Holyoke build'g.	Harvard st	2	"
" " Holmes Field	North ave	2	Union.
" " In yard	College grounds	1½	Worthington.
" " Jeff'n Phys Lab.	Holmes Field	1½	Crown.
" " Jarvis Field	Everett st	5/8	Worthington.
" " Lawrence Sci. Se.	Kirkland st	3/4	"
" " Law School	Holmes Field	1	"
" " Agassiz Museum.	Divinity ave	1	"
" " " "	Divinity ave	1½	"
" " Memorial Hall	Cambridge st	2	"
" " Sever Hall	College grounds	3/4	"
" " Stoughton Hall	College grounds	5/8	"
" " Thayer Hall	College grounds	1½	"
" " Tennis grounds	Everett st	1½	"
" " " "	Oxford st	5/8	Union.
" " University Hall.	College grounds	2	"
Harvard Piano Co	Main st	3/4	"
Hale, Aaron	Elm st	3/4	Thompson.
Hannum, L. M.	Green st	1	Worthington.
Hawkins Machine Co	First st	1	"
Hazen, D. M.	Elm st	1	"
Hayward Confectionery Co	Main st	1	"
Hews, A. H. & Co	Crescent ave	1	"
" " " "	Walden st	1½	"
Hersey, Ira G.	Broadway	1½	"
Hilton, J. M.	Harvard st	1½	Union.
Holt & Bugbee	East st	3/4	Worthington.
Holton, F. H. & Co	Harvard st	1	"
" " " "	Harvard st	2	"
Horgan, J. H.	Main st	1	"
Houghton, H. O. & Co	Blackstone st	5/8	Crown.
" " " "	Blackstone st	2	Worthington.
Howe & Putney	Distillhouse st	2	Crown.

List of Meters — *Continued.*

Meter.	Location.	Size Inch.	Kind.
Ivers & Pond, No. 1	Main st	2	Worthington.
" " No. 2	Albany st	2	Crown.
" " Engine room	Albany st	2	Union.
Irving & Casson	Otis st	1	Worthington.
Jones, C. L. & Co,	Pearl st	¾	Ball & Fitts.
Keeler & Co	Thorndike st	2	Union.
Kemp L. & Sons	Davis st	2	Worthington.
Kendall, Joshua, school	Appian way	⅝	"
Kendall & Sons, Engine room	Main st	¾	"
" " Machine shop	Main st	⅝	"
" " Boiler shop	Main st	1	"
Kennedy, Mrs. A	Farwell pl	1	"
Kerr, Ropes & Crowell	Bridge st	2	"
Lake & Moynahan	Main st	¾	Crown.
Lamb & Ritchie	Albany st	1	"
Laminar Fibre Co	Tannery st	2	Union.
Linehan, Chas	Bridge st	1	Crown.
Little, Brown & Co	Blackstone st	¾	Thompson.
Mason & Hamlin Org'n & P'no Co.	Broadway	2	Hersey.
Mason, Mrs. Broadway House	Broadway	⅝	Union.
Maverick Oil Works	Sixth st	2	Hersey.
Middlesex Co. House of Correction	Second st	2	Worthington.
" " " " " "	Spring st	4	Union.
" " " Court House	Otis st	⅝	Worthington.
" " " " "	Thorndike st	1	"
" " " Registry of Deeds	Otis st	1½	"
" " Bleachery & Dye W'ks	Sacramento st	1	"
Milan, Alex	Brattle st	⅝	Crown.
Miller & Shaw	Broadway	1	Worthington.
Miller & Sons	Gore st	¾	Frost.
Moring, Est. of A. L	Main st	1	Hersey.
Morss & Whyte	Auburn st	4	Crown.
Moulton, C. W. H	Gore st	¾	Worthington.
Mt. Auburn Corp't'n (Cemetery).	Mt. Auburn st	⅝	Desper.
" " " " (Greenhouse)	Brattle st	1	Worthington.
" " " "	Coolidge ave	4	"
Murdock, W. H	Griggs st	⅝	Ball & Fitts.
McNamee, J. H. H	Main st	2	Hersey.
McNamee, John & Sons	Mt. Auburn st	⅝	Worthington.
National Linseed Oil Co	Fifth st	1	"
New England Dredging Co	Front st	4	Crown.
" " " "	Pacific st	⅝	Worthington.
New York Biscuit Co	Franklin st	1½	Union.
" " "	Franklin st	2	"
" " "	Green st	2	"
" " "	Green st	3	Worthington.
" " "	Green st	1½	"
" " " (pump)	Main st	¾	Thompson.
Noreross Bros	Brookline st	1½	Union.
Norton, E. H	Distillhouse st	1	Worthington.
Oak Grove Farm Co	Main st	¾	Union.
O'Brien, John F	Coolidge ave	¾	Worthington.
Orr, Rev. Wm	Arrow st	1	"
Page, G. G. Box Co	Hampshire st	2	"
" " "	Hampshire st	4	Union.
Page Carlos	Broadway	1½	Worthington.
Paige & Co	Bridge st	¾	Union.
Phillips, E. Burt	Clark st	⅝	"
Porcellian Club	Harvard st	1	Hersey.
Phillips, George S	Main st	¾	Worthington.
Place, Charles	Norfolk st	1½	"
Purcell, H	Main st	⅝	"
Quinn, John	Otis and First sts	1½	Union.
Rawson & Morrison	Main st	¾	"
Reardon, John, Sons	Waverley st	4	Worthington.
Revere Sugar Refinery	Water st	3	Union,
" " "	Water st	3	"
Reversible Collar Co	Mt. Auburn st	1	Worthington.
Rideout, M. E	State st	1	"
Roberts Iron Works Co	Main st	1½	Thompson.
Roberts, O. P	Brattle st	1	Worthington.
Rogers, heirs of George M	Washington st	3	"

List of Meters — *Concluded.*

Meter.	Location.	Size Inch.	Kind.
Rutherford, R. J.	First st	1	Crown.
Sands, M. W.	Dublin st	5/8	"
" "	Dublin st	3/4	Balance Valve.
" "	Walden st	1	Worthington.
Saurman, B. F.	Gore st	5/8	Union.
Salvation Army	Prospect st	3/4	Worthington.
Schwartz, Henry	546 Main st	5/8	"
Shaw, A. B. & E. L.	Otis st	3/4	"
Shorey, Geo. L.	Kinnaird st	4	Union.
Smart, D. C.	Main st	2	Worthington
Spaulding Cable Works	Main st	5/8	Union.
Speare's S. Alden, Sons & Co	Rogers st	1 1/4	Worthington.
Squire, John P. & Co	Gore st	1	"
" " "	Gore st	2	"
" " "	Gore st	4	Union.
" " "	Gore st	6	Gem.
St. Mary's Catholic Church	Norfolk st	2	Worthington.
St. Peter's Catholic Church	Concord ave	2	Union.
St. Paul's Catholic Church	Mt. Auburn st	2	"
Scully, John T.	First st	3/4	Crown.
Storr, D. C., Furniture Co	Thorndike st	3/4	Worthington.
" " " "	First st	5/8	Union.
Teele, Frank H.	Lincoln court	3/4	Worthington.
Thayer Henry & Co.	Broadway	2	"
Tower, S., & Son	Broadway	2	"
Tracy, M. F.	Boylston st	3/4	"
Underhill & Anderson	First st	1 1/2	"
" " "	First st	2	Union.
Union Glass Co.	Webster ave	5/8	Worthington.
" " "	Webster ave	3/4	"
Union Pacific Tea Co.	Main st	3/4	Union.
Vannier, Jos.	Columbia st	1	Worthington.
Warren, J. H. (Felton Hall)	Cambridge st	1	"
West E. St. R'y Co. Car house	Cambridge st	3/4	Balance Valve.
" " " " "	Dunster st	3/4	Worthington.
" " " new " "	Murray st	1	"
" " " El. " "	Murray st	1	"
" " " El. Power "	North st	2	"
" " " Office	Harvard sq	3/4	Crown.
" " " Paint shop	Dunster st	1	Worthington.
" " " Repair shop	Dunster st	1	"
" " " Stable	Baldwin st	1	"
" " " "	Brookline st	1	"
" " " "	Cambridge st	1	"
" " " "	Cambridge st	1	"
" " " "	Dunster st	1	"
" " " "	Dunster st	3/4	Hersey.
" " " "	Main st	2	Worthington.
" " " "	Mt. Auburn st	2	Crown.
" " " "	North ave	2	Worthington.
" " " "	Murray st	1 1/2	"
" " " "	River st	1	"
" " " Washing cars	Murray st	1 1/2	Crown.
" " " Waiting room	Main st	5/8	Union.
" " " " "	Bridge st	5/8	Worthington
Whitney, H. W.	Main st	5/8	Crown.
Wight & Scorgie	Mt. Auburn st	3/4	"
Wilcox, David	Davis st	2	Frost.
Wilkins, W., & Co	Earl st	5/8	Terry.
Williams, H. A. Mnf'g. Co	Otis st	5/8	Worthington.
Wilson's, John, Sons	Brattle sq	1	Crown.
Woods, J. M. & Co.	Bridge st	1 1/2	Worthington.
Zerega, J. F.	State st	5/8	"

List of Drinking Fountains November 30 1891

Brattle street, junction of Craigie street.
Brattle street, east side, at Brewer's block.
Bridge street, junction of Cambridge street
Broadway, corner of Norfolk street.
Central square, east side.
Central square, west side.
Garden street, at Washington Elm.
Hampshire street, junction of Broadway.
Harvard square, at the flag-staff.
Inman square, east side.
Main street, junction of Broadway.
Main street, junction of Mt. Auburn street.
Mt. Auburn street, corner of Coolidge avenue.
North avenue, at Igo's.
North avenue, corner of Walden street.
Putnam avenue, corner of Brookline street.

List of Standpipes for Street Watering, November 30, 1891.

Bow street, at angle.
Boylston street.
Brattle street, near University Press.
Brattle street, near Fayerweather street.
Brattle street, near Fresh Pond lane.
Brattle street, corner of Sparks street.
Bridge street, junction of Cambridge street.
Broadway, junction of Hampshire street.
Broadway, corner of Sixth street.
Broadway, near Third street.
Broadway, corner of Winsor street.
Brookline street, corner of Putnam avenue.
Cambridge street, corner of Baldwin street.
Cambridge street, at Inman square.
Cambridge street, near Warren street.
Cambridge street, near Winsor street.
Columbia street, near Austin street.
Concord avenue, near Wyeth street.

Coolidge avenue, opposite entrance to Mt. Auburn Cemetery.
Dana street, corner of Chatham street.
Fresh Pond avenue, opposite Vassal lane.
Garden street, opposite Linnæan street.
Gore street, west from Third street.
Green street, near Western avenue.
Inman street, near Broadway.
Kirkland street, near Quincy street.
Main street, near Hancock street.
Main street, near Portland street.
Magazine street, opposite Warland street.
Mount Auburn street, near Athens street.
Mount Auburn street, corner of Coolidge avenue.
Mt. Auburn street, near Willard street.
Norfolk street.
North avenue, near the common.
North avenue, near Beech street.
North avenue, near Roseland street,
North avenue, near Spruce street.
North avenue, corner of Norris street.
North avenue, opposite Hudson street.
North aveune, opposite Tannery street.
Oxford street, near Sacramento street.
Prison Point street, opposite round house.
Putnam avenue, opposite school house.
River street, near Putnam avenue.
Sixth street, near Thorndike steet.
Spruce street, corner of Cedar street.
Third street, near Rogers street.
Thorndike street, near Third street.
Walden street, corner of Mt. Pleasant street.
Washington avenue, near Lambert avenue.
Waterhouse street, near the common.
Watson street, cornet of Brookline street.
Western avenue, corner of Howard street.

Main Pipe Laid, Number of Gates and Fire Hydrants.

Location.	Iron Pipe.		Gates.		Hydrants.	
	Length.	Size.	No.	Size.	No.	Size.
	Feet.	Inch.		Inch.		Inch.
Albany street	14	6	..	..	2	6
Appleton street	9	6	..	..	1	6
Arnold place	160½	4	2	4	..	..
Arnold place	3	1½	..	..	..	..
Ash street, cor. of Mt. Auburn street.	2	4	1	4	..	..
Athens Court	71	2	..	..	..	..
Avon Hill street	385½	6	1	6	1	6
Brattle street at Mercer Circle	3	12	1	12	.	..
Brewer street, renewal	360	4	1	4	1	6
Brewery street	66	1¼	..	..	..	..
Brookline street, near the bridge	39½	6	1	6	1	6
Carlisle street	154	4	1	4	..	..
Centre street	2	4	1	4	..	..
Charles street	64½	6	1	6	..	..
Charles street	32	1½	..	..	..	..
Charles street	77½	1¼	..	..	..	..
Clay street	468	6	..	..	1	6
Clary street	210½	4	1	4	..	..
Clary street	3	1½	..	..	..	..
Clifton street	71	6	..	..	..	..
Columbia street, at Broadway	7	6	..	..	1	6
Dudley street	146	4	1	4	..	..
Dunster street	231½	4	2	4	..	..
Eighth street	..	..	1	6	..	..
Ellsworth avenue, renewal	1006	6	2	6	2	6
Elm street, near Webster avenue	39	6	1	6	1	6
Fifth street, corner of Otis street	13	6	..	..	1	6
Foster court	52	1¼	..	..	..	..
Foster street	144	4	..	..	..	..
Front street	265½	12	1	12	..	..
Front street	7	6	..	..	..	..
Front street	1043	4	1	4	..	..
Front street, bet. Village and State sts.	4	6	..	..	1	6
Gibson street	249	6	1	6	..	..
Gibson street	3	1½	..	..	..	..
Gorham street	180	6	1	6	..	..
Gorham street	3	1½	.	..	..	..
Granite street	52	4	..	..	..	..
Hampshire street	570	8	1	8	..	..
Hampshire street and Broadway	50	8	1	6	1	6
Hampshire and Clark streets	7	6	..	..	1	6
Henry street, corner of Sidney street	8	6	..	..	1	6
Hillside avenue	2	6	1	6	..	..
Jones alley	97	4	1	4	..	..
Lexington avenue	320½	6	..	..	1	6
Lincoln street	239	4	2	4	..	..
Line street	376½	6	..	..	1	6
Locke street	163	4	1	4	..	.
Locke street	3	1½	..	..	..	..
Lowland avenue, cor. of Vine street.	21	4	1	4	..	..
Lyman street, renewal	164½	4	1	4	..	..
Lyman street	3	1½	..	..	..	..

Main Pipe Laid, Number of Gates and Fire Hydrants.

Location.	Iron Pipe.		Gates.		Hydrants.	
	Length.	Size.	No.	Size.	No.	Size.
	Feet.	Inch.		Inch.		Inch.
Magee street	72	6	..	..	..	..
Main street, high service	239	4	1	4	..	..
Marvin court, renewal	79½	2	..	..	..	..
Middlesex street	302	6	..	..	1	6
Mt. Vernon street	7	6	..	..	1	6
Murray street, renewel	927	6	1	6	..	..
Murray street, renewal	158	4	2	4	..	..
Myrtle street	262½	6	1	6	1	6
Norfolk street and Webster avenue	47	6	1	6	1	6
Oak place	187	4	1	4	..	..
Oak place	3	1½	..	..	..	..
Otis street	30	4	..	..	..	..
Otis street, bet. First and Second sts.	7	6	..	..	1	6
Portland street	45	12	1	12	..	..
Railroad street	16	6	..	..	1	6
Robinson court	170	2	..	..	..	..
Rockingham street court	120	1½	..	..	..	..
Reservoir and Highland streets	8	6	..	..	1	6
Russell street	6½	6	..	..	1	6
Salem street, renewal	291	4	2	4	..	..
Salem street	5	6	..	..	1	6
Sidney and Auburn streets	6	6	..	..	1	6
Sixth street	....	..	..	..	1	6
Thorndike street	260	6	1	6	..	..
Thorndike street	4	4	..	..	..	..
Tremont street, near Cambridge street	7	6	..	..	1	6
Tremont street, near Webster avenue.	57	6	1	6	1	6
Van Norden street	356½	6	1	6	1	6
Vine street	191	6	1	6	..	..
Vine street	3	1½	..	..	..	..
Wicklow street	449	6	1	6	1	6
Wicklow street	3	1½	..	..	..	..
Wilbur street	395	6	1	6	..	..
Wilbur street	3	1½	..	..	..	..
Wilson street,	171	4	1	4	..	..
Wilson street	3	1½	..	..	..	..
Woodbridge street	257	6	1	6	..	..
Woodbridge street	3	1½	..	..	..	..

Recapitulation.

	12 Inch.	8 Inch.	6 Inch.	4 Inch.	2 Inch.	1½ Inch.	1¼ Inch.	Total.
Length in ft. of iron pipe	313½	620	5,004	3,296½	241	188	195½	9,858½
Length in ft. of iron pipe (renewals)			1,905	973½	79½			2,958
Number of gates	3	1	21	24				49
Number of hydrants			33					33

New Supplies.

	6 Inch.	4 Inch.	2 Inch.	1½ Inch.	1¼ Inch.	1 Inch.	¾ Inch.	Total.
Length in feet of pipe	278	680	1589	122½	1970	3563	9661½	17,864
Number of supplies	4	2	25	4	34	83	252	404
Number of stop and waste valves			21	4	32	83	252	392
Number of screw cocks			24	4	33	83	252	396
Number of sidewalk cocks					12	80	248	340
Number of service boxes								312
Number of boxes, frames and covers								56

List of Check Valves.

OLD HIGH SERVICE.

	Size in Inches.
Arlington street, 230 feet west of North avenue	6
Avon Hill and Linnæan streets	6
Concord avenue, 135 feet south from Buckingham street	6
Fayerweather and Reservoir streets	6
Garden and Linnæan streets	6
Lake View avenue, 150 feet north from Brattle street	6
Lake View avenue, 150 feet north from Huron street	10
Mt. Vernon street, 100 feet west from North avenue	6
Mt. Pleasant street, 150 feet south from Walden street	6
Raymond and Linnæan streets	6

NEW HIGH SERVICE.

	Size in Inches.
Appian way, near Brattle street	4
Appleton street	6
Berkeley street, near Craigie street	4
Bigelow and Main streets	6
Broadway, on line of 6 in. pipe crossing College grounds	6
Clinton and Main streets	6
Dana street, near Main streets	4
Dana street corner of Broadway	4
Dublin street	6
Hancock street, corner of Harvard street, north	4
Harvard street, corner of Bigelow street, east	10
Harvard and Ellery streets (two valves)	6
Harvard and Prescott streets	4
Harvard and Trowbridge streets	4
Harvard and Ware streets	4
Highland street, on old 12 in. main	12
Kirkland and Cambridge streets	10
Kirkland street and Frisbie place	4
Lee and Harvard streets	4
Lee and Main streets	4
Linnæan and Lancaster streets (old high service extension)	6
Madison street and Concord avenue	4
Parker and Buckingham streets	4
Quincy street, near Broadway	4
Waterhouse street near small common	6

Statement of Stock on Hand, November 30, 1891.

WROUGHT IRON FITTINGS.

	6-in.	4-in.	3-in.	2½-in.	Total.
Bushings	....	5	6	2	13
Caps	....	1			1
Couplings	2	4	1	9	16
Elbows	2	4	5	3	14
Flanges	2–4	....	2		4
Flanges	2–2	....			2
Pipe, in feet	....	20		2	22
Plugs	....	5		2	7
Nipples	....	14	6	6	26
Reducing couplings	2–2	1–3		6–2	9
Tees	....	1–1	1–2½		2
Tees	....	1			1

FOR STREET MAINS (IRON PIPES AND FITTINGS).

	48 In.	36 In.	24 In.	20 In.	16 In.	12 In.	10 In.	8 In.	6 In.	4 In.	3 In.	2 In.
Bends	...	1	2–16	1–8	....	2–16	7–8	4–16	.....	13–8	...	...
Bends	...	...	....	1–16	....	....	....	....	.....	.....	...	...
Blow-off branches	...	...	....	1–6	....	....	....	...	.....	.....	...	...
Caps	...	...	....	....	....	....	7	15	14	2	...	...
Cast-iron plugs	...	1	....	2	....	....	....	....	.....	.....	...	...
Clamps for cement pipes	...	...	2–6	1–6	....	....	2	7	1	2	...	...
Clamp sleeves	...	...	5	8	3	4	2	9	11	12	13	...
Clamp sleeves	...	...	....	4	....	....	....	....	.....	1	...	...
Clamp sleeves (Smith)	...	...	1–6	5–6	....	4–6	....	....	.....	.....	...	...
Cheek valves	...	...	2	....	....	....	1	....	1	.....	...	...
Crosses	...	...	....	1	2–6	5	2	9	3	8	4	...
Crosses	...	...	....	....	....	5–4	1–8	....	.....	.....	...	...
Crosses	...	...	....	....	1–12	1–6	6–6	4–4	8–4	.....	...	...
Drain offsets	...	...	....	....	....	....	....	....	11	.....	..	...
Elbows	...	...	1	....	2	7	6	6	12	12	...	...
Gates	...	...	....	....	....	6	4	20	33	30	1	8
Offsets	...	...	....	....	....	3	4–12	4–12	17–12	11–12	...	...
Offsets	...	...	....	....	....	....	....	....	5–6	4–6	...	...
Pipe, in lengths	2	1	1	46	6	120	148	311	335	180	...	...
Reducers	...	...	....	2–8	....	7–6	....	2–4	.....	.....	...	...
Reducers	...	...	1–10	2–12	....	7–8	4–8	6–6	18–4	8–3	...	...
Sleeves	...	1	4	7	1	13	4	15	16	13	6	...
Tees	...	...	1	2	2	6	5	7	23	7	2	...
Tees	...	1–6	3–6	3–6	1–6	6–6	2–8	6–6	5–4	5–6	...	...
Tees	...	...	1–8	3–12	....	2–8	4–6	....	.....	.....	...	...
Tees	...	...	1–20	....	....	....	....	....	.....	.....	...	...
Wooden plugs	...	...	2	2	2	3	5	9	23	50	10	...
Y branches	...	...	1	1–12	....	1	....	....	.....	.....	...	...

FOR SUPPLIES (GALVANIZED PIPE AND FITTINGS AND BRASS FITTINGS).

	2 in.	1½ in.	1¼ in.	1 in.	¾ in.	½ in.	
Air chambers	...	...	...	47	85	40	...
Bushings and reducing couplings	158	70	82	56	42	...	...
Caps and plugs	63	23	45	43	30	29	...
Chapman drip valves	19	11	33	16	220	...	...
Check valves	2	3	1	6	2	...	...
Couplings	45	81	61	41	98	16	...
Crosses	25	14	18	16	10	...	...
Driving cocks, threaded	...	...	...	27	15	...	...
Elbows	17	56	39	92	89	...	...
Faucets	...	...	...	11	8	5	...
Fountain cocks	...	...	...	...	14	...	...
Goose-necks for blow-offs	...	4	...	...	...	...	...
Hose nipples	...	...	...	10	16	...	...
Hydrant cocks	...	30	...	6	11	...	...
Lead connections	...	...	1	24	10	...	...
Lead connecting unions	...	...	...	11	68	...	...
Nipples	88	117	112	201	165	19	...
Offsets	17	...	...	...	...	...	...
Pipe, galvanized, (in feet)	504	779	125	75	1517	...	...
Self-closing fountain faucets	...	...	...	...	...	9	...
Screw cocks for cement pipe	...	4	...	10	...	...	...
Screw cocks	9	42	23	29	109	...	...
Sidewalk cocks	...	...	25	12	121	...	...
Sill cocks	...	...	...	...	10	...	...
Sill valves, nickel-plated	...	...	...	...	4	...	...
Street elbows	...	...	...	30	38	...	...
Stop and waste cocks	...	12	1	12	1	...	...
Stop and wastes for flush hydrants	...	...	...	...	...	18	...
Tees	25	27	40	50	65	58	...
Tees, reducing	31	9	42	28	52	...	...
Unions	49	31	48	36	10	10	...
Socket ends of rod	...	...	...	...	...	...	10

Stock in Shop and Yard.

3 axes.
10 iron boxes.
7 hydrant boxes.
12 cock boxes.
9 wooden boxes.
30 service boxes.
2 work benches.
1 work bench with drawers.
4 tool bags.
Lot of blocks and wedges.
Lot of meter blocks and bolts.
7 iron bars.
4 tamping bars.
6 pairs rubber boots,
1 30-inch overflow bell,
1 thawing boiler and furnace.
10 blankets.
2 buggies.
1 Goddard buggy,
2 clocks.
8 chairs.
1 barrel charcoal.

1 half-barrel clay.
1½ casks cement.
300 ft. cypress.
Lot of counters and ratchets.
1 hay cutter.
5 oil cans.
4 small oil cans.
1 washer cutter.
11 pipe cutters.
12 chains.
2 tool chests.
1 grain chest.
2 oil coverings for horses.
1 Prentice upright drill.
1 clothes closet.
1 drying closet.
1 meter closet.
2 small derricks.
3 breast derricks.
3 hay forks.
4 drinking fountains.
3 furnaces.
50 large frames and covers for gates.
9 small frames and covers for gates.
32 large frames and covers for hydrants.
1 Atlas engine.
2 grindstones.
2 paving heaters.
6 harnesses.
6 horses.
1 blow-off hose.
150 ft. of ¾ inch hose.
150 ft. 2½-in. hose.
3 hooks for tapping pipe.
1 floating hook.
3 hatchets.
2 hoes.
6 wooden horses.
2 claw hammers.
9 sledge hammers.
2 paving hammers.
3 hand hammers.
12 post hydrants.
5 old post hydrants.
3 hydrant valves.
7 hydrant bodies.
15 post hydrant jackets.
9 post hydrant rods.
2 ¾-in. garden hydrants.
4 lead kettles.
3 ladders.
5 ladles.
43 lanterns.
2200 lbs. lead.
2 1-in. Ball & Fitts meters.
1 ⅝-in Crown meter.
1 ¾-in. Crown meter.
1 2-in Hersey meter.
1 ¾-in Metropolitan meter.
1 ¾-in. Frost meter.
1 ¾-in. Thomson meter.
1 6-in Union Rotary meter.
1 3-in Union Rotary meter.
1 2-in. Union Rotary meter.
1 ¾-in Union Rotary meter.
1 3-in. Worthington meter.
2 1½-in. Worthington meters.
5 1-in. Worthington meters.
1 ¾-in. Worthington meter.
1 ⅝-in. Worthington meter.
1 2-in Worthington meter.
1 Saunder's pipe machine with dies.
1 Smith drilling machine.
3 machines for tapping cement pipe.
1 drilling machine with drills complete.
2 tapping machines for supplies with taps and drills.
8 large malls.
40 lbs. packing.
45 lbs. sheet rubber packing.
2 diaphragm pumps with hose.
3 hand pumps.
7 thawing out pumps.
1 Heald & Sisco pump.
12 plates with dies.
450 ft. thawing-out pipes.
Plane, level, square, etc.
27 pails.
45 picks.
Lot of 4-in. sheet piling.
3 pungs.
91 lbs. lead pipe.
17 trench rammers.
2 paving rammers.
1 ratchet and drills for tapping main pipes.
256 risers for boxes.
2 rakes.
13 shut-off rods.
2 buffalo robes.
4 lap robes.
2 robes.

2 elevating screws.
1 meter rack.
1 pick rack.
1 shovel rack.
1 wrench rack.
2 bracing screws.
2 sand sieves.
1 sleigh.
8 screw drivers,
5 saws.
Lot of block stones.
2 platform scales.
40 shovels.
220 seals.
1 stove with fixtures.
29½ ft. 1½-in shafting.
Lot of old timber.
1 saw table complete.
2 tanks for measuring water.
1 set hydrant tools.
2 sets main-pipe tools.
1 truck.
1 hand-truck.
4 rope tackles.
6 pipe tongs.
1 chain tongs.
2 trowels.
4 bench vises.
3 wagons.
½ cord wood
18 pipe wrenches.
3 nut wrenches.
6 monkey-wrenches.
11 gate wrenches.
5 blow-off wrenches.
3 1-in. cock wrenches.
5 2-in. cock wrenches.
15 small tee wrenches.
4 flush hydrant wrenches.
1½ bushels rock salt.
1 lathe with usual chucks and tools.
1 snow-shovel.

Tools at Fresh Pond.

BRICK HOUSE, STABLE AND TOOL HOUSE, CONCORD AVENUE.

3 blankets.
1 brush.
1 cart.
1 curry-comb.
1 fork.
9 hay forks.
1 grain chest.
17 tons hay,
1 harrow.
2 harnesses.
2 horses.
2 mowing machines.
1 snow plow
1 hand force pump.
1 hay rack.
2 hay rakes.
2 hay ropes.
1 small skiff.
4 scythes.
4 scythe snaths.
5 shovels.
1 sled.
1 flat wagon.
2 wrenches.
1 horse hay rake.

ON THE WORKS, FRESH POND.

10 axes.
6 bars.
4 lead bars.
1 stone boat.
2 tool chests.
9 draught chains.
2 yoke chains.
2 cutters.
2 paving hammers.
1 hand hammer.
4 grub hoes.
1 grab harness.
1 level.
2 levelling instruments.
1 ladder.
5 chisel-pointed picks.
10 round-pointed picks.
4 ploughs.
100 ft. rope.
1 paving rammer.

2 ditch rammer.
2 gravel rakes.
2 hand rollers.
1 horse roller.
1 cross-cut saw.
1 hand saw.
2 iron scrapers.
1 screen.
43 shovels.
1 set sighting sticks.
2 portable sleds.
2 sod spades.
1 stove.
1 tackle.
1 monkey-wrench.
1 wooden scoop.

STABLE, GAY ESTATE.

8 tons hay.

HOLWORTHY STREET GATE HOUSE.

1 boat.
1 gun.
5 hoes.
150 ft. hose.
3 lanterns.
1 pick.
3 gravel rakes.
2 wooden rakes.
3 shovels.
3 gate wrenches.
1 Stillson wrench.

Tools at Stony Brook.

1 axe.
1 row-boat with oars.
1 iron bar.
2 chairs.
1 watering can.
2 tons coal.
1 tip-cart.
1 grindstone.
2 pairs grab hooks.
2 grub hoes.
50 ft. hose.
1 harrow.
1 hoe.
1 harness.
1 lead kettle.
1 sod knife.
1 ladder.
1 ladle.
1 lantern.
100 lbs. pig lead.
1 lawn mower.
1 monkey-wrench
2 lengths 36-in pipe.
12 lengths 30-in. pipe.
2 pike poles.
1 pick.
2 hay rakes.
1 rope and fall.
40 ft. rope.
2 steels.
2 steel drills.
2 scythes.
2 snaths.
1 horse sled.
1 stove and fixtures.
14 cast-iron signs.
1 shovel.
2 sickles.
2 30-in. sleeves.
1 sledge hammer.
1 pair iron traces.
1 wheelbarrow.
2 gate wrenches.
1 whipple-tree.

REPORT

OF THE

ENGINEER OF THE PUMPING STATION.

PUMPING STATION, CAMBRIDGE WATER WORKS,
December 4, 1891.

Hiram Nevons, Esq., Superintendent: —

SIR: I would report the machinery at the pumping station in good condition. The high-service engine has been repaired as far as was possible with the limited time the engine could be stopped. This engine has been in operation an average of fourteen hours a day for nearly ten years, and will soon need more extensive repairs. I would recommend that additional machinery be provided for this service.

New sectional mouthpieces have been fitted to the furnaces of four of the boilers.

The metal top to the chimney is in bad condition and should be renewed the coming year.

Following will be found a statement of the expenses at the pumping station, with the usual tables.

Respectfully submitted,

EDWIN C. BROOKS,
Engineer.

STATEMENT.

1,216$\frac{480}{2240}$ tons Cumberland coal, at $4.38.	$5,326 96
Oil, waste, packing, etc.	206 18
Repairs on engines and boilers	359 13
Repairs on buildings and care of grounds	223 85
Tools and instruments	92 20
Lighting	13 34
Ice	20 13
Expressing	9 95
Salaries	5,902 57
	$12,154 31

Engine Record, Pond Levels and Rainfall.

Date.	Low Service Engines.						High Service Engine.			Total water pumped.	Daily average water pumped.	Total coal consumed.	Daily average coal consumed.	Average height of pond.	Rainfall.
	Engine No. 1.			Engine No. 2.											
	Pumping time.		Water pumped.	Pumping time.		Water pumped.	Pumping time.		Water pumped.						
	Hrs.	Min.	Gallons.	Hrs.	Min.	Gallons.	Hrs.	Min.	Gallons.	Gallons.	Gallons.	Lbs.	Lbs.	Feet.	Inches.
December, 1890	145	30	49,166,150	255	00	91,113,000	496	00	12,899,155	153,178,305	4,941,236	238,700	7,700	16.27	4.40
January, 1891	394	30	135,180,100				496	00	13,596,048	148,770,148	4,799,036	235,400	7,594	16.13	6.68
February, "	342	00	116,468,550				448	00	12,106,522	128,575,072	4,591,967	202,100	7,218	16.26	4.61
March, "				382	45	127,608,250	496	00	12,800,602	140,408,852	4,529,318	216,900	6,997	16.53	5.74
April, "	299	25	98,801,450	55	15	18,876,550	480	00	12,811,699	130,489,699	4,349,657	199,100	6,637	16.55	2.72
May, "	280	30	89,916,200	126	50	40,992,050	491	30	14,984,582	145,892,832	4,706.220	219,600	7,084	16 54	2.44
June, "				419	20	142,583,100	478	15	13,595,155	156,178,255	5,205 942	229,300	7,643	15.80	4.01
July, "				416	20	146,020,600	496	50	14,534,918	160,555.518	5,179,210	238,400	7,690	14.70	3.06
August, "	418	00	139,163,200				497	15	14,366,438	153,529,638	4,952,968	240,500	7,758	12.89	3.68
September, "	24	45	9,048,600	375	00	137,836,050	480	00	14,319,418	161,204,068	5,373,469	242,300	8,077	13.28	2.73
October, "				382	15	143,396,000	496	00	15,180,269	158,576,269	5,115,363	243,100	7,842	14.34	5.10
November, "	349	15	126,440,600				480	00	14,257,517	140,698,117	4,689,938	220,200	7,340	14.58	3 08
Total	2,253	55	764,184,850	2,412	45	848,425,600	5,835	50	165,446,323	1,778,056,773		2,725,600			48.25
Daily average	6	11	2,093,657	6	37	2,324,454	15	59	453,278	4,871,388		7,467		15.32	

Stock on Hand December 1, 1891.

1180 tons Cumberland coal, 35 gallons cylinder oil, 24 gallons engine oil, 24 gallons kerosene, 20 lbs. tallow, 75 lbs. cotton waste, 20 lbs. rubber packing, 10 lbs. Usidurian packing, 12 lbs. square flax packing, 30 manhole gaskets, 1 quire emery cloth, 1½ doz. gauge glasses, 20 lbs. soap, 4 brooms, 225 fire bricks, 300 lbs. bolts and nuts, 1 lot iron pipe, 1 lot pipe fittings, 3 lantern globes.

Tools, Furniture and Instruments.

1 18-in.x10-ft. engine lathe, with chucks, tools etc., 1 5-in.x6in. engine, 1 lot shafting, pulleys and belting, 1 pipe-threading machine, with dies, I grindstone, 1 emery wheel, 2 vises, 2 vise benches, 3 die plates and dies, 1 set pipe taps, 1 set hand taps, 2 pipe cutters, 14 pairs pipe tongs, 3 hammers, 1 copper hammer, 20 cold chisels, 1 hand bellows, 20 files, 6 screw wrenches, 5 Stillson wrenches, 2 clamp screws, 2 jack screws, 1 sledge, 2 ratchets, 24 drills, 1 breast drill, 6 steel bars, 2 soldering irons, 4 cylinder head cranes, 12 eye-bolts, 75 starting bolts, 1 chain fall, 3 tackles, 2 ladles, 4 wooden horses, 1 oil cabinet, 1 set measures, 1 lot oil cans, 1 oil pump, 1 carpenter's bench and tools, 2 axes, 2 hand axes, 2 hatchets, 1 set fire tools, 1 coal car, 1 pair platform scales, 2 wheelbarrows, 10 scoop shovels, 1 tube scraper, 1 forge, 1 anvil, 6 pairs tongs, 4 hand chisels, 2 lawn mowers, 1 steel rake, 2 wooden rakes, 4 forks, 1 spade, 1 weeder, 1 pick, 1 ice saw, 1 ice chisel, 4 ladders, 3 step ladders, 200 feet 2-in. hose and pipe, 100 feet ½-inch hose and pipe, 1 water cooler, 6 fire pails, 8 water pails, 1 window brush, 1 floor brush, 1 dust brush, 1 feather duster, 1 dust pan, 1 lot matting, 6 spittoons, 3 mats, 1 lot gas fixtures, 1 dynamo, 1 arc lamp, 1 lot incandescent lamps and fixtures, 4 bracket lamps, 4 lanterns, 4 hand-lamps, 26 cells Julien storage battery, 1 desk, 2 tables, 12 chairs, 2 clocks, 1 barometer, 1 hygrophant, 1 thermometer, 1 indicator, 2 rain gauges, 1 snow gauge, 1 cot bed and bedding, 1 belt clamp, 1 Hancock inspirator, 1 lot belting.

REPORT

OF THE

CHIEF ENGINEER OF THE FIRE DEPARTMENT.

CHIEF ENGINEER'S OFFICE, CITY HALL,
CAMBRIDGE, December 21, 1891.

To His Honor the Mayor and the City Council :—

GENTLEMEN: In accordance with the provisions of section 6 of the ordinance in relation to the fire department, I have the honor to present my thirteenth annual report.

Membership.

The department membership has been increased since the last report by the addition of twelve men, and now numbers one hundred and seven, there being one vacancy. Twenty-six are permanently employed, and eighty-one are call men.

I would respectfully call your attention to the necessity of strengthening the permanent force by making the position of fireman, in each company a permanent one, as the companies would be made much more efficient by so doing.

Apparatus.

Since the last report ladder truck No. 2, which was sent to the repair shop on November 22, 1890, has been returned after having been thoroughly overhauled, remodeled and painted. The truck is now both convenient and substantial and in every respect as good as a new one.

The new engine No. 6, built by the Manchester Locomotive works of Manchester, N. H., was delivered in this city, and on the fourteenth day of March, was accepted by the committee on fire department, after a very satisfactory exhibition of its

working capacity, in the presence of the committee and other members of the city government.

The engine has a boiler 35 inches in diameter, and 66 inches long; contains 241 copper tubes, each 24 inches long and $1\frac{1}{2}$ inches in diameter; double steam cylinders, each $7\frac{5}{8}$ inches in diameter, with 8 inches of stroke; double composition pumps, each $4\frac{5}{8}$ inches in diameter with a stroke of 8 inches. The engine is of improved construction and capable of discharging 900 gallons of water per minute.

A hose-carriage, of the Abbot-Downing Co.'s pattern, was also purchased, and with the engine placed in the new engine house on River street. They were put in service on the eleventh day of May.

Early in October, it was found necessary to send engine No. 5, to the shop to have a new boiler, and such other repairs made as were needed to put the engine in good condition.

The rest of the apparatus, with the exception of hose-carriage No. 2, are generally in good working condition, and as far as known at the present time, will only need slight repairs the coming year.

For the better protection of the city against fires, I would recommend that a steam fire engine be purchased and located in the vicinity of the lower Port, and that a chemical engine be purchased and located in the westerly section of ward one. I would also recommend that a hose-wagon be bought to take the place of hose-carriage No. 2, which has been in the service a number of years and is considerably worn.

Hose.

During the year, twenty-four hundred feet of cotton hose, rubber lined, was purchased and placed in charge of the companies most needing the same, and twelve hundred and fifty feet was condemned. The total amount of hose now in the service and in good condition is eleven thousand and one hundred feet.

Horses.

Six horses were bought during the year, and four disposed of. There are twenty-seven horses now in charge of this department,

all of which are suited for the service, with the exception of two. one of these is a spare horse and should be disposed of as he is not suited for the fire service. The other after nearly ten years of service in the department, has become lame, and should be replaced with a younger and sounder horse.

Fire Alarm Telegraph.

The fire alarm telegraph which was in charge of this department, the chief engineer, by virtue of his office, being superintendent of the same, was by an ordinance enacted on April 21, transferred to the department of electric wires. Since the above date, the fire alarm has been in charge of the inspector of wires.

Houses.

The houses of the department are in very good condition and will only require the usual ordinary repairs the coming year.

The new engine house on River street, after having been accepted by the committee on public property, under whose directions it was built, was, on the twenty-eighth day of April, transferred to the charge of the fire department. The house is pleasantly located, substantially built and furnished with the latest modern improvements.

I again desire to call your attention to the need of a building for the purpose of storing the spare apparatus. I hope the matter will receive your early attention, as the department is very much in need of a building for that purpose.

Hydrants.

The superintendent of water works has, by the direction of the water board, located thirty-three additional hydrants of the post pattern the past year, making the total number for fire service seven hundred and three.

Appropriations, Receipts and Expenditures.

The appropriation for the maintenance of this department for the year, was: Estimated revenue, $150; Appropriation $66,682.93; Making a total appropriation of $66,832.93. The revenue in excess of the estimate was $7.40.

The expenditures were as follows:

Apparatus, new	$5,393 88	
Apparatus, repairs of	1,517 25	
Bedding and furniture	403 32	
Expressing	52 05	
Fire alarm and supplies	1,360 94	
Fines of members	101 50	
Fuel for houses and engines	1,470 59	
Gas	949 28	
Harnesses and repairs	536 35	
Hay, grain and straw	3,114 00	
Horses	1,475 00	
Horseshoeing	698 79	
Hose and repairs	2,079 03	
Horse hire and men (extra)	685 00	
Hydrants, care of	149 55	
Incidentals	411 55	
Pay-roll	44,056 48	
Printing and stationary	145 87	
Supplies	739 79	
Vacations and disability	1,127 81	
Washing	305 80	
		$66,773 83
Balance unexpended		$59 10

Fires and Alarms.

The loss by fire and water exceeds that of any previous year, since 1882, by several thousands of dollars. This statement may be explained by the fact that the larger part of the loss sustained occurred at three fires: the Damon Safe and Iron Works, the Roberts Iron Works, and J. C. Davis & Sons' soap manufactory.

The number of fires and alarms for the year, was 162 or 14 more than for any previous year. The losses and insurance, as near as could be ascertained, were as follows:

	Loss.	Insurance.	Insurance Paid.
On buildings	$80,038 65	$160,217 65	$59,688 65
On contents	237,409 45	161,640 90	133,244 70
Total	$317,448 10	$321,858 55	$192,933 35

Casualties.

Charles F. Foley, who occupied rooms at 371 Main street, was burned to death, on Sunday, December 21, the fire having

originated from some cause unknown, in the room in which he was sleeping

Capt. Thomas L. Hunter, of Ladder Co. No. 2, while working at a fire May 9, received severe injury to his leg by a blow from an axe which he was using.

Miss Ella Smith, who resided at 23 Florence street, was fatally burned on July 10, by her clothes catching fire, while attempting to throw out an oil stove in which the oil had ignited.

Thomas F. O'Connell, of Ladder Co. No. 2, while working at a fire, August 19, was severely cut on the hand by window glass.

While Engine No. 2, was answering a call from box 21, on September 27, and in turning from Main into Brookline street, the rear wheels of the engine slid on the car-track, bringing up against the guard rail of the curve, with such force as to overturn the engine. The driver, John H. Walker, was also thrown violently to the ground, breaking his right collar-bone and receiving injury to his head. He also received severe injury to his left hip, by the off horse falling upon him. He is still unable to do duty.

The damage to the engine was repaired at a cost of about one hundred and twenty-five dollars.

Joseph W. Hopkins of Engine Co. No. 3, while working at a fire October 5, was severely injured by running a nail into his foot.

Patrick J. Hayes, of Engine Co. No. 3, while working at a fire October 9, was severely injured by running a nail into his hand.

Exurie J. Willmeth, of Engine Co. No. 3, while working at a fire November 5, was painfully burned on his hand.

Thomas P. Rowe, of Ladder Co. No. 2, in helping to raise a ladder at a fire November 6, had the large toe of his left foot broken by the ladder dropping upon it.

Conclusion.

To his Honor the Mayor, the City Council, and the Committee on Fire Department, for the interest in and kind consideration of all matters connected with this department, to the Dis-

trict Chiefs for their support, and the officers and members for their prompt response to alarms and their efforts to sustain the reputation of the department, I return my most sincere thanks.

Respectfully submitted,

THOMAS J. CASEY,
Chief Engineer.

APPENDIX.

Joint Standing Committee on Fire Department.

Aldermen . . . . . AYLWARD and PARRY.
Councilmen . . . . . MACDONALD, WINTER and JONES.

Engineers.

Name.	Rank.	Age.	Residence.
Permanent Force.			
Thomas J. Casey.....	Chief Engineer.....	58	449 Cambridge street
Call Force.			
Nathaniel W. Bunker.....	Dist. Chief Engineer	48	6 Beech street
Charles W. Brackett.....	" " "	55	133 Mt. Auburn street
William B. Cade.....	" " "	57	27 Park street

Engine Company No. 1.

House, Brattle Square.

No. of Badge.	Name.	Rank.	Age.	Residence.
	Permanent Force.			
1	Edwin E. Priest.....	Engineman.....	54	96 Winthrop street
2	Hiram W. Hooker...	Driver of engine..	53	Engine house
3	Charles R. Hooker..	Driver of hose....	47	15 Eliot street
	Call Force.			
28	Daniel E. Shea.....	Captain.....	35	33 Murray street
27	John L. Jones, Jr...	Lieutenant.....	40	650 Main street
25	James Jefferson.....	Fireman.....	38	9 Eliot street
23	William H. Emery..	Hoseman.....	58	141 Mt. Auburn street
30	James McLean.....	"	30	61 Boylston street
26	Albert L. Landerkin	"	37	5 Rutland street
31	Daniel E. Powers....	"	32	19 DeWolf street
29	Thomas H. Kneeland	"	28	57 Plympton street
97	William H. Perry...	"	29	22 Eliot street

Engine Company, No. 2.

House, Main Street, near Winsor.

No of Badge.	Name.	Rank.	Age.	Residence.
	Permanent Force.			
4	Thomas Wiseman...	Engineman.....	47	392 Main street
5	John H. Walker.....	Driver of engine.	62	85 Winsor street
6	Albert F. Sawyer....	Driver of hose....	48	1 Harold place
	Call Force.			
32	James Cunningham.	Captain.....	49	25 State street
33	Arthur C. Day.....	Lieutenant.....	54	47 Austin street
36	John McCarthy.....	Fireman.....	41	416 Main street
35	Benjamin D. Foss...	Hoseman.....	55	21 Cherry street
37	John Haley.....	"	37	413 Main street
39	Warren H. Dow.....	"	41	414 Main street
87	Charles A. Cairns...	"	25	14 Clark street
88	Charles H. Cutting..	"	38	6 Harold place
40	John H. Kelly.....	"	23	16 Plymouth street

Engine Company, No. 3.

House, Fourth Street, near Cambridge.

No. of Badge.	Name.	Rank.	Age.	Residence.
	Permanent Force.			
7	Hiram Blood.....	Engineman.....	59	32 Fifth street
8	Peter F. McSorley...	Driver of engine..	32	33 Fourth street
9	Lorenzo H. Dale....	Driver of hose....	48	104 Otis street
	Call Force.			
43	William F. Newman.	Captain.....	45	42 Winter street
42	Walter Baker.....	Lieutenant.....	37	91 Gore street
45	Eliot E. Alley.....	Fireman.....	55	73 Thorndike street
46	Timothy J. Mahoney	Hoseman.....	43	100 Vine street
41	William H. Cairns..	"	28	20 Fourth street
48	John F. Brassel.....	"	35	12 Warren street
49	Patrick J. Hayes....	"	28	92 Gore street
47	Exurie J. Willmeth..	"	28	39 Fourth street
44	Joseph W. Hopkins.	"	26	43 Fourth street

Engine Company, No. 4.

House, North Avenue, near Russell Street.

No. of Badge.	Name.	Rank.	Age.	Residence.
	Permanent Force.			
10	John E. Ricker.....	Engineman.....	47	234 North avenue
11	George E. Muzzey...	Driver of engine..	49	221 North avenue
12	Sylvanus G. Griffin..	Driver of hose....	44	234 North avenue
	Call Force.			
52	William J. Hanna...	Captain.....	45	9 Rice street
50	George F. Tibbetts..	Lieutenant.....	51	6 Beech street
57	Benjamin Young....	Fireman.....	47	223 North avenue
58	Arthur C. Griffin....	Hoseman.....	41	43 Rice street
56	Josiah P. Parsons...	"	43	13 Regent street
55	Jeremiah O'Connor..	"	33	41 Spruce street
51	Daniel McCaughin..	"	31	Rear 5 Russell stree
53	Edward A. Hurd....	"	41	2 Henderson place
54	George F. Durgin....	"	23	61 Creighton street

Engine Company, No. 5.

House, Inman Square.

No. of Badge.	Name.	Rank.	Age.	Residence.
	Permanent Force.			
13	Charles E. Conner..	Engineman.....	40	1337 Cambridge street
14	Joseph P. Cartwright	Driver of engine..	54	1383 Cambridge street
15	Francis P. Carr.....	Driver of hose....	48	195 Hampshire street
	Call Force.			
59	Francis P. Scanlan,..	Captain.....	45	1343 Cambridge street
64	William T. King....	Lieutenant.....	35	Engine house
61	George W. McIntire.	Fireman.....	37	70 Inman street
62	John E. Fitzgerald...	Hoseman.....	53	46 Washington street
67	George P. Bannister.	"	31	658 Main street
63	William H. Crump..	"	40	61 Market street
66	James H. McGrath..	"	34	1070 Cambridge street
60	George W. Stevens..	"	25	44 Antrim street

Engine Company, No. 6.

House, River Street.

No. of Badge.	Name.	Rank.	Age.	Residence.
	Permanent Force.			
98	J. Lewis Howe.....	Engineman.....	38	10 Jay street
38	Charles H. Chapman	Driver of engine .	38	204 River street
34	William Parks.....	Driver of hose....	47	208 River street
	Call Force.			
24	John H. Brown.....	Captain..... .	40	206 River street
75	James P. Ewell.....	Lieutenant.....	55	56 Franklin street
99	James Forsyth.....	Fireman.....	35	71 Tremont street
82	James T. McCabe...	Hoseman.....	29	2 Ericcson street
80	John H. McDermott	"	41	11 Dodge street
100	John E. Savage.....	"	37	56 Jay street
101	John H. Robbins....	"	36	17 Brookline street
102	Melvin A. Priest....	"	34	20 Fairmont street
103	William F. Stearns..	"	26	431 Main street

Chemical Engine Company, No. 1.

House, Western Avenue.

No. of Badge.	Name.	Rank.	Age.	Residence.
	Permanent Force.			
17	Lewis C. Clark.....	Engineman..... .	47	Engine house
18	William Haley.....	Driver of engine..	43	117 Auburn street
	Call Force.			
94	George W. Butler...	Hoseman.....	49	80 River street

Relief Engineer.

No. of Badge.	Name.	Rank.	Age.	Residence.
	Permanent Force.			
16	William H. Lydston.	Engineman.....	44	24 Norfolk street

Hook and Ladder Company, No. 1.

House, Eliot Square.

No. of Badge.	Name.	Rank.	Age.	Residence.
	Permanent Force.			
22	John T. McNamee..	Captain.....	36	99 Mt. Auburn street
19	Albert S. Benson....	Driver.....	48	56 Boylston street
	Call Force.			
69	Charles Emerson...	Lieutenant.....	46	14 Wright street
73	Charles H. Waite....	Ladderman.....	45	27 Pine street
76	Charles A. Sharon..	"	43	13 Pine street
78	William R. Mitchell.	"	38	15 Charles River street
68	James H. Furfey....	"	34	23 Prince street
74	James W. Irwin.....	"	36	66 Boylston street
77	William Stolba.....	"	34	17 DeWolf street
70	Thomas H. Donlan..	"	30	38 Grant street
72	Joseph E. Burke....	"	28	193 Mt. Auburn street
71	Willard H. Poole....	"	33	24 Rockwell street
104	Charles Barney.....	"	29	44 Antrim street

Hook and Ladder Company, No. 2.

House, Portland Street.

No. of Badge.	Name.	Rank.	Age.	Residence.
	Permanent Force.			
21	Thomas L. Hunter..	Captain.....	51	83 Winsor street
20	Thomas Mimnaugh..	Driver.....	38	33 Warren street
	Call Force.			
91	Lincoln E. Wheeler.	Ladderman.....	47	48 Cherry street
92	John Gaughan.....	"	49	25 Ninth street
90	Albert Smith.....	"	37	3 Norfolk street
89	Andrew Burk.....	"	49	87 Vine street
84	John B. Maguire....	"	32	148 Bridge street
85	Thomas F. O'Connell	"	30	51 Ninth street
83	James S. Casey.....	"	27	449 Cambridge street
86	Thomas P. Rowe....	"	29	271 Portland street
93	George E. Cragin.. .	"	33	9 Lambert street
95	Louis J. Stanger....	"	35	57 Vine street
96	Louis J. Anshelm...		31	187 Broadway

FIRES AND ALARMS.

From December 1, 1890, to December 1, 1891.

DECEMBER.

Tuesday, Dec. 2, 10.05 a. m. Box 27.

No. 10 Davis street. Owned and occupied by Predore Stacy as dwelling. Loss trifling. Cause, thawing out water pipe.

Wednesday, Dec. 3, 10.22 a. m. Box 65.

No. 56 North avenue. Owned and occupied by Gustavus Goepper as dwelling. No loss. Cause, hot ashes in barrel.

Wednesday, Dec. 3, 10.49 a. m. Box 17.

No. 42 Hastings street. Owned and occupied by Robert Carter as dwelling. Loss, $27. Insurance, $1,800. Cause, thawing out water pipe.

Thursday, Dec. 4, 5.50 p. m. Still.

No. 68 Fairmont street. Owned by B. R. Tilton. Occupied by William Martin as dwelling. No loss. Cause, soot in chimney taking fire.

Saturday, December 6, 1.44 a. m. Box 65.

No. 46 North avenue. Owned and occupied by George Arnold as studio. Loss trifling. Cause, defective furnace.

Sunday, Dec. 7, 5.53 p. m. Box 31.

No. 34 Willow street. Owned by James Haughay. Occupied by several families as dwellings. No loss. Cause, soot in chimney taking fire.

Tuesday, Dec. 9, 6.57 p. m. Box 53.

No. 26 Charles River street. Owned by Michael O'Sullivan. Occupied by several families as dwellings. No loss. Cause, soot in chimney taking fire.

Wednesday, Dec. 17, 6.58 a. m. Box 79.

Brewster street. Owned by Henry Endicott. Unoccupied. Loss trifling. Originated in the cellar. Cause, unknown.

Thursday, Dec. 18, 12.42 a. m. Box 135.

Harvard street. Cause, slacking of lime. Loss trifling.

Friday, Dec. 19, 11.46 a. m. Box 36.

No. 32 Prospect street. Owned by H. O. Holmes. Loss, $371. Insurance $4,000. Occupied by T. M. Kenney as dwelling. Loss $200. No insurance. Cause, defective furnace.

Saturday, Dec. 20, 6.56 a. m. Box 57.

No. 16 Mellen street. Owned by L. L. Stone. Occupied by Henry Dame as dwelling. Loss, $50. Insurance, $1,200. Cause, bedclothes taking fire from stove.

Saturday, Dec. 20, 4.53 p. m. Box 29.

No. 22 Portsmouth street. Owned by F. P. Stewart. Loss, $12. Insurance, $3,500. Occupied by M. A. Priest as dwelling. Loss, $50. No insurance. Cause, child and matches.

Sunday, Dec. 21, 11.57 p. m. Box 26.

No. 371 Main street. Owned by Elias Howe heirs. Loss, $280. Insurance, $600. Occupied by C. F. Foley as carpenter shop. Loss, $150. No insurance. Cause, unknown.

Thursday, Dec. 25, 3.03 a. m. Box 2.

Rear Prison Point street. Owned and occupied by Boston & Maine R. R. Co. as coal-shed. Loss trifling. Cause, upsetting of a lighted torch.

Friday, Dec. 26, 1.46 a. m. Box 73.

No. 21 Jackson street. Owned and occupied by C. F. Farnam as stable. Loss, $40. No insurance. Cause, unknown.

Friday, Dec. 26. 5.27 a. m. Box 14.

No. 126 Otis street. Owned by Daniel Hagan heirs. Loss, $410. Insurance, $3,500. Occupied by Charles Emmel as dwelling. Loss trifling. Cause, thawing out water pipes.

Tuesday, Dec. 30, 8.55 a. m. Box 27.

No. 118 Harvard street. Owned by G. N. Hancock. Loss, $620. Insurance, $3,000. Occupied by Reuben Du Long as dwelling. Loss, $150. Insurance, $500. Cause, unknown.

Tuesday, Dec. 30, 4.20 p. m. Still.

Hawley place. Owned by E. D. Brooks. Occupied by several families as dwellings. Loss trifling. Cause, thawing out water pipe.

JANUARY.

Saturday, Jan. 10, 8.16 a. m. Box 52.

No. 856 Main street. Owned by M. J. Conry. Occupied by H. A. Morse as dwelling. Loss trifling. Cause, soot in chimney taking fire.

Monday, Jan. 12, 5.45, 5.55, 5.58 a. m. Box 6.

No. 92 Main street. Owned by Roberts Iron Works Co. Loss, $14,000. Insurance, $10,000. Occupied by Roberts Iron Works Co. as boiler makers. Loss $18,000. Insurance $17,200. Cause, unknown.

Thursday, Jan. 15, 11.01 a. m. Box 26.

Osborn street. Owned by Allen & Endicott. Occupied by Germania Electric Co. No loss. Cause, oil stove taking fire.

Saturday, Jan. 17, 12.53 p. m. Box 25.

No. 39 Austin street. Owned and occupied by M. E. Rideout as dwelling. Loss trifling. Originated in the cellar. Cause, hot ashes in barrel.

Thursday, Jan. 22, 4.23 p. m. Box 23.

No. 36 Auburn street. Alarm needless. Cause, blowing down of a chimney.

Tuesday, Jan. 27, 7.02 p. m. Box 2.

Prison Point street. Passenger car owned by Boston & Maine R. R. Co. Loss trifling. Cause, overheated stove.

Thursday, Jan. 29, 6.30 p. m. Still.

No. 126 Cambridge street. Owned and occupied by C. H. Hartwell as provision store. Loss trifling. Cause, electric light wires.

Friday, Jan. 30, 12.44 p. m. Box 17.

No. 6 Washington street. Owned by G. M. Rogers estate. Occupied by several families. No loss. Originated in the cellar. Cause, unknown.

FEBRUARY.

Wednesday, Feb. 4, 6 p. m. Still.

No. 159 Franklin street. Owned by Patrick Megraw. Occupied by John Flanagan as dwelling. Loss trifling. Originated in a closet. Cause, unknown.

Wednesday, Feb. 4, 6.41 p. m. Box 42.

No. 77 Putnam avenue. Owned by John McDonald. Occupied by several families as dwellings. No loss. Cause, soot in chimney taking fire.

Monday, Feb. 9, 10.36 a. m. Box 137.

No. 85 Western avenue. Owned by William Childs. Occupied by John Fell as dwelling. Loss trifling. Originated in a closet. Cause, child and matches.

Tuesday, Feb. 10, 7.19 p. m. Box 42.

No. 6 Day court. Owned by H. O. Houghton. Occupied by Ellen Roake as dwelling. Loss, $175. Insurance, $500. Originated in a clothes closet Cause, unknown.

Thursday, Feb. 12, 4.25 p. m. Box 4.

Medford street, Somerville. Owned and occupied by J. P. Squire & Co. as smoke house.

Thursday, Feb. 19, 10.04 a. m. Box 28.

No. 3-13 Hampshire street. Owned and occupied by George G. Page Box Co. Loss trifling. Originated in the boiler-room. Cause, sparks from furnace.

Saturday, Feb. 21, 8.20 a. m. Still.

No. 64 Austin street. Owned and occupied by A. C. Wheeler as dwelling. No loss. Cause, soot in chimney taking fire.

Saturday, Feb. 21, 9.54 a. m. Box 15.

No. 31 Vine street. Owned by J. I. Murphy. Occupied by Patrick Casey as dwelling. No loss. Cause, kerosene lamp falling on stove.

Thursday, Feb. 26, 7.33 p. m. Box 15.

No. 115 Fourth street. Owned by J. L. Fay. Occupied by James Kelley as dwelling. No loss. Cause, wood in stove oven taking fire.

Saturday, Feb. 28, 2 p. m. Still.

State street. Owned and occupied by M. E. Rideout as boiler room. No loss. Cause, dust on top of boiler taking fire.

MARCH.

Monday, Mar. 9, 8.28 p. m. Box 242.

Fire in Boston, "Brighton district." Assistance called for. Engine Co. No. 2, responded.

Sunday, Mar. 15, 8.43-9 a. m. Box 16.

Ninth street. Owned by American Rubber Co. Loss, $1,000. No insurance. Occupied by American Rubber Co. as carpenter shop. Loss, $1,200. No insurance. Cause, unknown.

Tuesday, Mar. 24, 9.13 p. m. Box 17.

No. 46 Hastings street. Owned by T. M. Ogle heirs. Loss, $15. No insurance. Occupied by T. D. Harris as dwelling. Loss trifling. Originated in the shed. Cause, slacking lime.

Tuesday, Mar. 24, 11.40 p. m. Still.

No. 23 Essex street. Owned by M. A. Kelley. Occupied by J. A. Haskell as dwelling. Cause, smoke mistaken for fire.

Wednesday, Mar. 25, 8.17 p. m. Box 42.

No. 137 River street. Owned by Newell Chamberlain. Occupied by G. E. Hatt as provision store. Loss trifling. Cause, falling of a kerosene lamp.

Saturday Mar. 28, 7.15 p. m. Box 72.

Cedar street. Cause, false alarm given by some malicious person.

APRIL.

Wednesday, April 1, 7.30 a. m. Still.

No. 47 Beacon street. Fire in Somerville. Engine Co. No. 5 responded.

Wednesday, April 1, 3.15 p. m. Still.

No. 35 Houghton street. Fire in Somerville. Engine Co. No. 5 responded.

Wednesday, April 8, 6.59 a. m. Box 68.

No. 40 Mt. Vernon street. Owned by E. L. Mason. Loss, $326. Insurance, $2,500. Occupied by E. L. Mason as dwelling. Loss, $154. Insurance, $2,000. Originated in the cellar. Cause, hot ashes in barrel.

Thursday, April 9, 8.04 p. m. Box 31.

No. 4 Harding street. Owned by Bridget Cullen. Loss, $25. Insurance, $3,600. Occupied by Ellen McCaffrey as dwelling. Cause, explosion of kerosene lamp.

Wednesday, April 15, 9.41 p. m. Box 6.

No. 171 Main street. Owned by James Viles. Loss, $450. Insurance, $4,000. Occupied by Alexander MacGillivray as provision and grocery store. Loss, $475. Insurance, $1,000. Cause, unknown.

Monday, April 20, 10.40 p. m. Still.

No. 57 Otis street. Owned and occupied by J. A. Latimer as dwelling. Loss, trifling. Originated on roof of L. Cause, lighted cigar-stub.

Wednesday, April 22, 1.05 p. m. Box 6.

No. 5 Potter street. Owned and occupied by Michael Collins as dwelling. Loss, trifling. Originated in the cellar. Cause, unknown.

Tuesday, April 28, 10.22 a. m. Box 31.

No. 21 Harding street. Owned by James McGurk. Loss, $13. Insurance, $1,000. Occupied by several families as dwellings. Originated on the roof. Cause, sparks from chimney.

Tuesday, April 28, 2.27 p. m. Box 37.

No. 63 Pleasant street. Owned and occupied by E. M. Cross as dwelling. Loss, $175 Insurance, $2,000. No. 65 Pleasant street. Owned and occupied by Angus Robertson as dwelling. Loss, $35. Insurance, $2,500. Originated on the roof of No. 63. Cause, sparks from roofers' furnace.

MAY.

Monday, May 4, 8.20 a. m. Still.

Second street. Keeler & Co's. furniture manufactory. Cause, accidental automatic alarm.

Tuesday, May 5, 7.14 p. m. Box 16.

No. 321 Main street. Owned by W. G. Coleman. Loss, trifling. Occupied by Nathaniel White as dwelling. Originated on the roof. Cause, sparks from chimney.

Thursday, May 7, 8.04 a. m. Box 92.

Mt. Auburn street. Owned and occupied by West End Railroad Co. as blacksmith shop. Loss, trifling. Originated on the roof. Cause, sparks from chimney.

Thursday, May 7, 4.53 p. m. Box 9.

No. 4 Cambridge street. Owned by C. O. Brigham. Loss, trifling. Occupied by J. J. McDonald, a carriage painter. Cause, defective flue.

Friday, May 8, 8.41 a. m. Box 114.

Thorndike street. Owned by Horace Coy. Loss, trifling. Occupied by W. R. Smith as stable. Originated in straw on outside of building. Cause, set afire by boys.

Saturday, May 9, 12.46 a. m. Box 28.

Broadway. Owned by M. E. Walker. Loss, $38. Insurance, $7,000. Occupied by C. L. Page & Co. as box manufactory. Loss, $50. Insurance, $1,000. Originated on outside of building. Cause, unknown.

Monday, May 11, 8.15 a. m. Box 7.

Lowland avenue. Owned by William Hawkins. Loss, $650. Insurance, $2,000. Occupied by Rose Devor as dwelling. Loss, $125. No insurance. Cause, children and matches.

Thursday, May 14, 10.25 a. m. Box 6.

No. 164 Main street. Cause, smoke mistaken for fire.

Friday, May 15, 6.06 a. m. Box 28.

Broadway. Owned by M. E. Walker. Occupied by C. L. Page & Co. as box manufactory. No loss. Originated in the shaving room. Cause, spontaneous combustion.

Saturday, May 16, 11.38 p. m. Box 242.

Albro street. Owned by Cambridge Electric Light Co. Loss, $200. Insurance, $3,000. Occupied by Cambridge Electric Light Co. as coal-shed. Loss, $150. Insurance, $5,000. Originated in coal. Cause, spontaneous combustion.

Tuesday, May 19, 2.07 p. m. Box 26.

State street. Owned and occupied by M. E. Rideout as engine room. No loss. Originated in wheel pit. Cause, unknown.

Friday, May 22, 3.21 p. m. Box 9.

No. 8 Gore street. Owned by Fitzpatrick estate. Loss, $85. Insurance, $1,600. Occupied by Patrick Boland as dwelling. Originated in the roof. Cause, sparks from chimney.

Sunday, May 24, 2.54 p. m. Box 16.

Deacon street. Owned by Cambridgeport Savings Bank. Unoccupied. No loss. Cause, set afire by boys.

Sunday, May 24, 8.20 p. m. Box 42.

No. 137 River street. Owned by Newell Chamberlain. Loss, trifling. Occupied by Riverside Gospel Mission. Cause, falling of a kerosene lamp.

Monday, May 25, 4.32 p. m. Box 32.

Rear No. 183 Winsor street. Burning straw and manure. Cause, children and matches.

Monday, May 25, 7.30 p. m. Still.

Murray street. Burning rubbish. Cause, set afire by boys.

Friday, May 29, 3. p. m. Still.

Nutting place. Owned by G. A. Ferris. Loss, $40. Insurance, $600. Occupied by G. A. Ferris as dwelling. Loss, $20. Insurance, $200. Originated in bedroom. Cause, children and matches.

Friday, May 29, 10.44 p. m. Box 43.

Banks street. Could find no cause for alarm.

JUNE.

Tuesday, June 2, 3.30 p. m. Still.

No. 43 Oak street. Fire in Somerville. Engine Co. No. 5 responded.

Friday, June 5, 11.55 p. m. Box 72.

No. 6 Reed street. Owned by John Coleman. Loss, $300. Insurance, $150. Occupied by John Coleman as barn. Loss, $50. No insurance. Cause, unknown.

Saturday, June 6, 7.31 a. m. Box 41.

No. 30 Prince street. Owned by J. G. Smith. Loss, $5. Insurance, $1,200. Occupied by J. A. Cronan as dwelling. Loss, $100. No insurance. Originated in bedroom. Cause, children and matches.

Monday, June 8, 4.32–4.49 p. m. Box 25.

Blanch street. Owned by B. G. Davis. Loss, $2,000. Insurance, $2,000. Occupied by C. B. Moller as stable. Loss, $1,850. Insurance, $2,000. Occupied by D. K. Howe as carriage trimmer. Loss, $800. No insurance.

Owned by G. F. Farwell. Loss, $1,500. Insurance, $3,000. Occupied by G. F. Farwell as stable. Loss, $500. Insurance, $300. Originated on outside of Davis' stable, in straw. Cause, set afire by boys.

Thursday, June 11, 2.37 p. m. Box 16.

Broadway. Owned by G. P. Carter estate. No loss. Occupied by Standard Turning Works as storage. Loss, $600. Insurance $1,000. Owned by Leander Greely estate. Loss, $90. Insurance, $350. Occupied by I. G. Hersey as store-house. Loss, $118. Insurance, $1,500. Originated in Carter building. Cause, sparks setting fire to roof.

Friday, June 12, 11.11 a. m. Box 14.

Gore street. Owned and occupied by C. W. H. Moulton & Co. as ladder manufactory. No loss. Originated on the roof. Cause, sparks from chimney.

Sunday, June 14, 7.42 p. m. Box 2.

Bridge street. Owned and occupied by Charles Linehan as stable. No loss. Cause, breaking of a lantern.

Tuesday, June 16, 9.47 p. m. Box 74.

Middlesex street. Owned by Thomas Rice. Loss, trifling. Dwelling being constructed. Cause, incendiary.

Wednesday, June 17, 2.24 p. m. Box 6.

Deacon street. Owned by Cambridgeport Savings Bank. No loss. Unoccupied coal-shed. Cause, set afire by boys.

Wednesday, June 17, 5.10 p. m. Still.

No. 54 Winter street. Owned by Isaac Harris. Occupied by several families. No loss. Cause, soot in chimney taking fire.

Wednesday, June 17, 8.10 p. m. Box 12.

No. 39 Gore street. Owned by D. H. Lehan estate. Occupied by E. F. Dillon as dwelling. Loss, trifling. Originated in bed-room. Cause, fire-cracker thrown into window.

Saturday, June 20, 10.29 p. m. Box 53.

Dyke street. Owned by Zebah Hayden. Loss, $200. Insurance, $300. Occupied by Zebah Hayden as carpenter-shop. Loss, $400. Insurance, $200. Cause, incendiary.

Monday, June 22. 9.01 p. m. Box 53.

No. 5 Dyke street. Owned by Michael Shea. Loss, $170. Insurance, $300. Occupied by Michael Shea as stable. Loss, trifling. Cause, incendiary.

Tuesday, June 23, 8.28 p. m. Box 53.

No. 104 Plympton street. Owned by Susman Bienfield. No loss. Occupied by several families. Originated in the cellar. Cause, incendiary.

JULY.

Friday, July 3, 5.40 a. m. Box 61.

No. 32–36 Brattle street. Owned by T. H. Brewer. Loss, $125. Insurance $5,000. Occupied by A. M. Darling as hotel. Loss, $66. Insurance, $2,000. Originated in the kitchen. Cause, gasoline stove taking fire.

Friday, July 3, 7. p. m. Still.

No. 18 South street. Owned and occupied by John White. No loss. Cause, soot in chimney taking fire.

Friday, July 3, 10.48 p. m. Box 71.

North avenue. False alarm, given by some malicious person.

Saturday, July 4, 12.43 a. m. Box 24.

No. 124 Brookline street. Owned and occupied by N. J. O'Shaughnessy as dwelling. Loss, trifling. Originated on the roof. Cause, fireworks.

Saturday, July 4, 1.39 a. m. Box 16.

Main street. Owned by City of Cambridge. Occupied by Pioneer Boat Club as boat-house. No loss. Cause, fireworks.

Saturday, July 4, 4.55 a. m. Box 25.

Front street. Owned and occupied by New England Telegraph and Telephone Co. as cable box. Cause, electric light wires.

Saturday, July 4, 4.55 a. m. Box 71.

Whittemore street. Owned by John Yates. Loss, $75. No insurance. Occupied by John Yates as store-house. Loss, $75. No insurance. Cause, incendiary.

Saturday, July 4, 5 p. m. Still.

No. 22 South street. Owned and occupied by E. A. Mason as dwelling. Loss, trifling. Originated on the roof. Cause, fire-crackers.

Monday, July 6, 9.45 a. m. Still.

No. 325 Prospect street. Owned by John Cahill. Loss, $150. Insurance, $1,500. Occupied by A. F. Hogan as dwelling. Loss, trifling. Cause, kerosene stove taking fire.

Monday, July 6, 2.55 p. m. Still.

No. 18 Storey street. Owned by John Delaney. Occupied by J. H. Chase as barn. Loss, trifling. Originated on the roof. Cause, sparks from chimney.

Friday, July 10, 7.49 p. m. Box 39.

No. 23 Florence street. Owned by M. O. Whitmore. Occupied by C. F. Covill as dwelling. Loss, trifling. Cause, kerosene stove taking fire.

Friday, July 10, 11.39 p. m. Box 72.

Harvey street. Owned by J. F. Brosnahan. Loss, $85. Insurance, $2,500. Occupied by several families as dwellings. Loss, trifling. Cause, rats and matches.

Saturday, July 11, 7.30 a. m. Box 82.

Rear Appleton street. Cause, burning brush.

Tuesday, July 14, 9.18 a. m. Box 34.

Rear No. 127 Hampshire street. Owned by Jane Moore. Loss, $20. No Insurance. Occupied by Jane Moore as shed. Loss, trifling. Cause, kerosene stove taking fire.

Wednesday, July 15, 12.07 p. m. Still.

No. 217 Green street. Owned by John Little. Occupied by C. A. Gay as dwelling. Loss, trifling. Originated amongst matches in a closet. Cause, unknown.

Saturday, July 18, 4.48 p. m. Box 2.

Freight yard, Prison Point street. Owned by Boston & Maine R. R. Co. Loss, $50. Insurance, $50. Occupied by Boston & Maine R. R. Co. as hay car. Loss, $79. Insurance, $79. Cause, incendiary.

Sunday, July 19, 10.31 a. m. Box 2.

Freight yard, Prison Point street. Owned by Boston & Maine R. R. Co. Loss, $51. Insurance, $51. Occupied by Boston & Maine R. R. Co. as hay car. Loss, $102. Insurance, $102. Cause, incendiary.

Sunday, July 19, 5.25 p. m. Box 2.

Freight yard, Prison Point street. Owned by Boston & Maine R. R. Co. Loss, $42. Insurance, $42. Occupied by Boston & Maine R. R. Co. as hay car. Loss, $105. Insurance, $105. Cause, incendiary.

Tuesday, July 21, 2.24 p. m. Box 6.

No. 15 Main street. Owned and occupied by G. L. Damon as safe manufactory. No loss. Cause, sparks setting fire to wood-work.

Wednesday, July 22, 5.33 p. m. Box 16.

No. 41 Harvard street. Owned and occupied by F. H. Holton & Co. as wagon shed. Loss trifling. Cause, unknown.

Wednesday, July 22, 8.34 p. m. Box 16.

Harvard street. Owned by F. H. Rindge. Occupied by F. H. Holton & Co. as store-house. No loss. Cause, incendiary.

Thursday, July 23, 5.14 a. m. Box 32.

No. 422 Cambridge street. Owned by Patrick Ferry. Occupied by J. P. Ferry as dwelling. Loss, trifling. Cause, oil stove taking fire.

Friday, July 24, 12.55 p. m. Still.

Freight yard, Ninth street. Owned by Boston & Albany R. R. Co. Occupied by W. H. Wood & Co. as lumber car. No loss claimed. Cause, set afire by boys.

Saturday, July 25, 4.26 p. m. Box 53.

No. 3 Athens street. Owned and occupied by H. J. McNamee as dwelling. No loss. Cause, oil stove taking fire.

Monday, July 27, 1.19 p. m. Box 36.

No. 7 Essex street. Owned by R. & C. G. Wentworth. Occupied by Richard Carter as dwelling. Loss, trifling. Cause, oil stove taking fire.

Monday, July 27, 8.21, p. m. Box 12.

No. 211 Bridge street. Owned and occupied by Wellington & Buck as coal shed. Loss, trifling. Cause, sparks from a locomotive.

AUGUST.

Saturday, August 1, 7.19 p. m. Box 32.

No. 379 Cambridge street. Cause, burning of an awning. Loss, $10.

Monday, August 3, 1.36 p. m. Box 9.

No. 93 Bridge street. Owned by Boston & Maine R. R. Co. Occupied by G. C. Emerson as wood-shed. Loss trifling. Originated on the roof. Cause, sparks from chimney.

Monday, August 10, 2.39 a. m. Box 31.

No. 14 Harding street. Owned by Bernard Rafferty. Loss, $200. Insurance, $150. Occupied by Bernard Rafferty as stable. Loss, $2,500. Insurance, $1,400.

No. 42 Jefferson street. Owned and occupied by Ann Scott as dwelling. Loss, $50. Insurance, $1,500. Originated in stable. Cause, unknown.

Wednesday, August 12, 1.54 p. m. Box 48.

No. 525 Cambridge street. Owned by John Alston. Occupied by A. C. Cunningham as apothecary. Loss, $250. Insurance, $2,000. Originated among sawdust in cellar. Cause, unknown.

Wednesday, August 12, 3 p. m. Still.

No. 45 Columbia street. Cause, kettle of tar taking fire.

Saturday, August 15, 9.50 a. m. Box 29.

No. 48 Webster avenue. Owned by Gustavus Goepper. Loss, $10. Insurance, $4,000. Occupied by Rufus Oxner as dwelling. Cause, bottle of turpentine falling on stove.

Saturday, August 15, 10.52 a. m. Box 6.

West Boston Bridge. Alarm given by a police officer because of the overturning of a loaded team.

Saturday, August 15, 9.45 p. m. Box 2.

Freight yard, Prison Point street. Owned by Irwin Brothers' Circus Co. Loss trifling. Cause, barrel of gasoline on freight car taking fire from lighted torch.

Monday, August 17, 6.26 a. m. Box 47.

No. 64 Inman street. Owned and occupied by D. O. Gunnison as dwelling. Loss, trifling. Originated in a clothes-closet. Cause, matches in pocket of clothes.

Tuesday, August 18, 7.20–7.30–7.34. Box 6.

Main street. Owned by G. L. Damon. Loss, $40,000. Insurance, $28,650. Occupied by Damon Safe and Iron Works Co. Loss, $97,000. Insurance, $34,000. Occupied by Edward Kendall & Sons as machine shop. Loss, $67,592. Insurance, $45,000. Occupied by Harvard Dry Plate Co. as storage for glass. Loss, $3,000. Insurance, $3,000. Main street. Owned by G. L. Damon. Loss, $1,135. Insurance, $8,000. Occupied by Harvard Dry Plate Co. Loss, $5,000. Insurance, $1,800. Originated in the safe works. Cause, unknown.

Wednesday, August 19. 9.53 a. m. Box 23.

No. 39 Auburn street. Owned by Sawyer heirs. Loss, $165. Insurance, $1,500. Occupied by C. D. Richardson as dwelling. Loss, $178. Insurance, $900. Originated in a bedroom. Cause, unknown.

Thursday, August 20, 4.55 p. m. Still.

Freight yard, Boston & Albany R. R. Owned by Boston & Albany R. R. Co. Loss trifling Occupied by G. W. Gale as car of shingles. Loss, $25. No insurance claimed. Cause, set afire by boys.

Wednesday, August 26, 10.06 a. m. Box 16.

Nos. 37-41 Harvard street. Owned and occupied by F. H. Holton & Co. as copper works. Loss trifling. Cause, ignition of naphtha.

Wednesday, August 26, 3.42 p. m. Box 6.

Rear No. 4 Pioneer street. Owned by James Kneeland. Loss, $115. Insurance, $2,000. Occupied by Michael Norris as dwelling. Loss, $75. Insurance, $300. Originated in a bedroom. Cause, defective flue.

Thursday, August 27, 7.08 p. m. Box 10.

First street. Owned and occupied by Hawkins Machine Co. No loss. Cause, ignition of oiled waste.

Sunday, August 30, 5.15 p. m. Box 16.

Nos. 37-41 Harvard street. Owned and occupied by F. H. Holton & Co. as copper works. Loss trifling. Originated under the floor near boiler. Cause, unknown.

SEPTEMBER.

Friday, Sept. 4, 5.49 p. m. Box 6.

Deacon street. Owned by Cambridgeport Savings Bank. No loss. Unoccupied coal-shed. Cause, set afire by boys.

Wednesday, Sept. 9, 6.18 p. m. Box 16.

No. 19 Harvard street. Owned by P. F. Rourke. Occupied by several families as dwellings. No loss. Cause, soot in chimney taking fire.

Thursday, Sept. 10, 1.15 p. m. Still.

No. 13 Third street. Owned by P. W. Knight. Occupied by Margaret Kelleher as dwelling. Loss, $20. No insurance. Originated amongst clothing. Cause, unknown.

Friday, Sept. 11, 6.57 p. m. Box 16.

Deacon street. Owned by Cambridgeport Savings Bank. No lost. Unoccupied coal-shed. Cause, set afire by boys.

Saturday, Sept. 12, 9.17 p. m. Box 43.

No. 37 Banks street. Owned by Lawrence Forrest. Occupied by T. M. Spellary as dwelling. Loss trifling. Cause, explosion of kerosene lamp.

Wednesday, Sept. 16, 9.26 p. m. Box 114.

Ninth street. Cause, burning of a barrel of shavings in rear of Boston & Albany freight office. No loss. Set afire by boys.

Saturday, Sept. 26, 9.45 p. m. Still.

Murray street. Cause, burning rubbish.

Sunday, Sept. 27, 8.48 p. m. Box 21.

No. 265 Putnam avenue. Owned by Andrew McGlinchy. Occupied by J. H. Murray as dwelling. Loss, $10. No insurance. Originated in clothes closet. Cause, unknown.

Monday, Sept. 28, 8.40 a. m. Box 35.

No. 59 Essex street. Owned by J. M. Robbins. Loss, $52. Insurance, $2,000. Occupied by L. M. McKenna as dwelling. Originated in clothing. Cause, matches in vest pocket.

Monday, Sept. 28, 9.22 a. m. Box 24.

No. 5 Decatur court. Owned by G. H. Brooks. Occupied by Annie Forbes as dwelling. Loss trifling. Originated in a bedroom. Cause, unknown.

Monday, Sept. 28, 2.25 p. m. Box 52.

No. 831 Main street. Owned by Charles Moore. Occupied by Abraham Tevriz as variety store. Loss trifling. Cause, kerosene stove taking fire.

Wednesday, Sept. 30, 6.10 p. m. Still.

No. 1299 Cambridge street. Owned by McCloskey & Harty. Occupied by Charles Goldburg as clothier. Loss, $25. Insurance, $600. Cause, breaking of a kerosene lamp.

OCTOBER.

Saturday, Oct. 3, 12.50 p. m. Still.

Freight yard, Boston & Albany R. R. Owned by Boston & Albany R. R. Co. Loss, $25. Insurance, $25. Occupied by Leavitt Sanborn & Co. as hay car. Loss, $100. No insurance. Cause, set afire by boys.

Saturday, Oct. 3, 1.45 p. m. Still.

Thorndike street. Owned and occupied by H. M. Sawyer as oil clothes manufactory. Cause, accidental automatic alarm.

Monday, Oct. 5, 6.28–6.35–6.49. Box 4.

Medford street, Somerville. Owned and occupied by J. P. Squire & Co. as pork packing establishment. The entire department rendered assistance.

Monday, Oct. 5, 6.31 p. m. Box 16.

Broadway. False alarm. No cause could be found for giving the alarm.

Tuesday, Oct. 6, 7.41 p. m. Box 43.

No. 44 Flagg street. Owned by John Sullivan. Occupied by Charles Terry as dwelling. Loss trifling. Cause, breaking of a kerosene lamp.

Thursday, Oct. 8, 4.09 a. m. Box 36.

No. 557 Main street. Owned by Nagle estate. Loss, $650. Insurance, $12,000. Occupied by W. T. Roop as boot and shoe store. Loss, $3,500. Insurance, $8,000. Occupied by Eliza Howard as hair-worker. Loss, $100. Insurance, $1,000. Originated on second floor in hair-worker's room. Cause, unknown.

Friday, Oct. 9, 8.33–8.36. Box 14.

No. 251 Cambridge street. Owned by J. P. Squire. Loss, $415. Insurance, $3,500. Occupied by West End Railway Co. as stable. Loss, $154. Insurance, $154. Cause, overheated stovepipe.

Tuesday, Oct. 13, 9.38 a. m. Box 71.

Rear North avenue. Owned by J. Sewell & Co. Loss, $580. Insurance, $1,000. Occupied by J. Sewell & Co. as wood-working mill. Loss, $175. Insurance, $1,000. Originated in drying-room. Cause, unknown.

Thursday, Oct. 15, 11.45 a. m. Still.

Osborn street. Cause, burning rubbish.

Wednesday, Oct. 21, 12.26 p. m. Box 36.

No. 539 Main street. Owned by Samuel James estate. Occupied by several parties. Loss trifling. Originated on the roof. Cause, sparks.

Wednesday, Oct. 21, 1.44 p. m. Box 48.

No. 194 Hampshire street. Owned by J. A. Sweeney. Loss, $709. Insurance, $700. Occupied by James Montgomery as dwelling. Loss, $150. No insurance. Originated in a bedroom. Cause, unknown.

Wenesday, Oct. 28, 1.40 p. m. Still.

Thorndike street. Owned and occupied by H. M. Sawyer as oil-clothes manufactory. Loss, $400. Insurance, $400. Originated in drying-room. Cause, unknown.

Friday, Oct. 30, 4.14 p. m. Box 26.

Rear Main street. Owned by Allen & Endicott. Loss, $150. Insurance, $600. Unoccupied. Originated in the roof. Cause, unknown.

NOVEMBER.

Tuesday, Nov. 3, 1 p. m. Still.

No. 8 Central place. Owned and occupied by J. F. Townsend as dwelling. Loss, $10. Insurance, $2,000. Originated in the cellar. Cause, unknown.

Thursday, Nov. 5, 5.31 p. m. Box 15.

Rear No. 57 Charles street. Owned by Margaret Willwerth. Loss, $213. Insurance, $1,500. Occupied by several families as dwellings. Loss, trifling. Rear Nos. 59–61 Charles street. Owned by James Doherty. Loss, $150. No insurance. Occupied by James Doherty as stable. Loss, $675. Insurance, $300. No. 59 owned and occupied by James Doherty as dwelling. Loss, $48 Insurance, $2,500. Originated in an outhouse. Cause, unknown.

Thursday, Nov. 5, 6.45 p. m. Box 15.

Rear Nos. 59–61. Rekindling of fire. Alarm needless.

Friday, Nov. 6, 6.30 a. m. Still.

Binney street. Owned by W. S. Baxter. Loss, $40. Insurance, $50. Occupied by W. S. Baxter as variety store. Loss, $35. No insurance. Cause, unknown.

Friday, Nov. 6, 9.45–9.51–9.58 p. m. Box 28.

204–208 Broadway. Owned by J. C. Davis & Son. Loss, $10,000. Insurance $7,300. Occupied by J. C. Davis & Son as soap manufactory. Loss, $30,000. Insurance, $24,800. Cause, unknown.

Saturday, November 7, 12.15 p.m. Box 6.

Munroe street. Owned by Peter Gallighan. Loss, $150. Insurance, $600. Occupied by Peter Gallighan as dwelling. Loss, $125. Insurance, $400. Originated in an outhouse. Cause, children and matches.

Saturday, November 7, 2 p. m. Still.

No. 29 Holyoke street. Owned by O. C. Shephard. Loss, $20. Insurance, $6,000. Occupied by several parties as dwellings. Cause, dropping of a lighted match amongst paper.

Sunday, November 8, 12.44 p. m. Box 6.

Rear 226 Third street. Owned by J. C. Ayer. Occupied by Moore & Co. as stable. Loss, trifling. Originated on the roof. Cause, sparks.

Wednesday, November 11, 6.15 p. m. Still.

Bridge street. Cause, burning rubbish.

Friday, November 13, 8.30 p. m. Still.

Bridge street. Cause, burning rubbish.

Wednesday, November 25, 1.55 p. m. Box 29.

No. 35 Bristol street. Owned by Honora Landers. Loss, $175. Insurance, $1,500. Occupied by W. H. Lambert as dwelling and variety store. Loss $125. No insurance. Cause, incendiary.

Thursday, November 26, 7.15 p. m. Box 87.

No. 207 Lake View avenue. Owned by Nancy Richardson. Loss, $500. Insurance, $500. Occupied by James Richardson as stable. Loss, $400. Insurance, $700. Cause, unknown.

FIRE ALARM TELEGRAPH.

Location of Boxes.

2. Prison Point St., cor. Bridge.
2. Prison Point St. (duplicate).
4. Gore St., J. P. Squire's Works.
6. Third St., cor. Broadway.
6. W. B. Bridge, Transfer Station (duplicate.
7. Third St. cor., Bent.
8. Thorndike St., cor. Third.
9. Cambridge St., near First.
10. Thorndike St., near First.
12. Third St., cor. Winter.
12. North St., cor Water (duplicate).
13. Fourth St., Engine House No. 3.
14. Sixth St., cor. Cambridge.
15. Vine St., cor. Fifth.
16. Broadway, Greely's Mill.
17. Washington St., cor. Brewery.
21. Sidney St., cor. Allston.
23. Pearl St., cor. Auburn.
24. Brookline St., cor. Valentine.
25. Lafayette Square.
26. Main St. cor Osborn.
27. Clark St., cor. Harvard.
28. Broadway, near Brewery.
29. Webster Ave., cor. Plymouth St.
31. Cambridge St., cor. Harding.
32. Columbia St., cor. Cambridge.
34. Hampshire St., cor. Columbia.
35. Harvard St., cor. Norfolk.
36. Main St., cor. Prospect.
37. Junction Pleasant and River Sts.
38. Magazine St., cor. Lake.
39. Magazine St., cor. Chestnut.
41. Pleasant St. cor. Fairmont.
42. Blackstone St., opp. Riverside Press.
43. Banks St., cor. Flagg.
45. Franklin St., cor. Soden.
46. Main St., cor. Hancock.
47. Broadway, cor. Antrim.
48. Inman Square, Engine House No. 5.
49. Cambridge St., cor. Baldwin.
51. Broadway, cor. Ellery St.
52. Junction Main and Mt. Auburn Sts.
53. Mt. Auburn St. cor. Holyoke Place.
54. Cambridge St., Memorial Hall.
56. Kirkland St., cor. Sumner.
57. Oxford St. cor. Mellen.
59. Harvard Square, cor. Brattle St.
61. Brattle Square, City Building.
62. Mt. Auburn St., cor. Hilliard.
63. Junction Brattle and Mason Sts.
64. Junction Concord Av. and Garden St.
65. North Avenue, cor. Shepard St.
68. North Avenue, near Railroad Bridge.
69. North Avenue, cor. Day St.
71. North Avenue, near Tannery.
72. Cedar St., cor. Dudley.
73. Spruce St., near Bay State Brick Yard.
74. Dublin St., cor. Railroad.
75. Walden St., cor. Raymond.
76. Walnut Avenue, cor. Arlington St.
78. Concord Avenue, cor. Sparks St.
79. Brattle St., cor. Sparks.
82. Brattle St., cor. Appleton.
83. Brattle St., cor. Elmwood Avenue.
87. Lake View Avenue, near Concord Avenue.
89. Concord Avenue, near Hittinger's Ice House.
92. Mt. Auburn St., near Railroad Stable.
93. Locust St., cor. Cushing.
114. Ninth St., Goepper Bros.' Barrel Factory.
116. Broadway, Tower's Piano-key Factory.
121. Brookline St., cor. Chestnut.
125. Green St., F. A. Kennedy's Cracker Bakery.
126. Pine St., cor. Washington.
134. Tremont St., cor. Hampshire, City Stable.
135. Harvard St., opp. Bigelow.
136. Norfolk St., cor. Austin.
137. Western Avenue, cor. Howard.
152. Junction Main and Bow Sts.
153. Grant St., cor. DeWolf.
158. Oxford St., cor. Harris.
165. North Avenue, opp. Linnæan St.
167. Linnæan St., cor. Avon.
168. North Avenue, Engine House No. 4.
212. Kendall & Sons, Boiler Works, Main St. (private).
216. Ninth St., Rubber Factory Yard.
223. Morss & Whyte, 10 Franklin St.
228. Broadway, Curtis Davis & Co.'s Yard.
242. Albro St., Electric Light Works.
264. Concord Avenue, Cambridge Observatory.
271. North Avenue, Railroad Stable.
371. Cambridge Almshouse.
55. Signal for no school.

REPORT

OF THE

CHIEF OF POLICE.

To the Honorable the Mayor and the City Council of the City of Cambridge: —

GENTLEMEN: In compliance with the city ordinance, I have the honor to present my annual report of the work of the Police Department for the year ending November 30, 1891.

The whole number of arrests for the year has been two thousand three hundred and twelve (2,312) against 1,773 last year.

Males	2,096
Females	216
Adults	1,905
Minors	407

The offences for which arrests have been made are as follows:

Assault and battery	199
Assault, felonious	6
Assault, indecent	2
Assault on officer	20
Adultery	9
Attempt to rescue prisoner	3
Arson	1
Bastardy	10
Breaking and entering	53
Capias	1
Common drunkards	13
Cruelty to animals	12
Contempt of court	2
Concealing mortgaged property	3
Default	1
Delirium tremens	2
Disturbing the peace	152
Disturbance in street car	16
Disorderly conduct	200
Drunkenness	885
Embezzlement	8
Amount carried forward	1,598

Amount brought forward	1,598
Escaped prisoners	7
Evading car fare	3
Exposure of person	2
False pretence	3
Forgery	1
Fornication	2
Fast driving	2
Gaming, or present at	13
Highway robbery	3
Idle and disorderly	7
Insane	38
Illegal transportation	10
Illegal sale of liquor	1
Keeping unlicensed dog	9
Liquor nuisance	125
Larceny	133
Larceny from building	8
Lewd and lascivious	3
Larceny from person	2
Malicious mischief	18
Manslaughter	2
Murder	1
Obstructing a horse car	1
Obtaining money under false pretences	1
Non-support	21
Neglected children	14
Peddling without a license	15
Promoting a lottery	3
Playing cards on Lord's day	2
Profanity	3
Robbery	1
Rape	1
Safe keeping	4
Stubborn children	18
Surrendered by bail	1
Stealing a ride	5
Suspicious persons	15
Surety of the peace	5
Threatening	9
Truants	5
Trespass	26
Using unsealed measures	1
Vagrants	25
Violation of city ordinance	114
Violation of the milk law	4
Violation of the Lord's day	4
Violation of the liquor law	20
Violation of the health law	3
Total	2,312

Whole number of lodgers		70
Males	70	
Females	0	
Adults	69	
Minors	1	
Amount of property reported stolen		$5,817 87
Amount of property reported recovered		4,455 00

Miscellaneous Business.

Accidents reported	84
Buildings found open and secured	291
Cases investigated	960
Dangerous buildings	6
Dead bodies found	13
Defective cesspools	25
Defective drains and vaults	5
Defective water pipes	43
Defective gas pipes	5
Defective hydrants	7
Defective lamps	1,774
Defective fire alarm	1
Defective streets and side walks.	799
Defective wires	20
Disturbances suppressed	405
Dogs killed	114
Extra duties done by officers (days)	364
Fire alarms given by officers	27
Fires extinguished without alarms	15
Intoxicated persons helped home	28
Lost children restored	169
Sick and injured persons assisted	134
Stray teams put up	94
Street obstructions removed	87
Water running to waste	48

City Property in Use by Police Department.

120	badges	$165 00
90	billies (short)	45 00
150	billies and belts	225 00
8	books	26 00
2	bookcases	12 00
	Bedding and blankets	30 00
2	brooms	50
2	bureaus	3 00
1	buggy	200 00
6	bedsteads	40 00
6	clocks	20 00
2	cots and beds	3 00
	Amount carried forward	$745 73

	Amount brought forward	$745 73
40	chairs	30 00
3	coal hods	1 00
4	carpets	48 00
2	copying machines	20 00
9	desks	200 00
2	dust pans	50
3	horses	600 00
3	harnesses	150 00
4	horse blankets	12 00
1	hat rack	50
3	halters	1 00
1	ice hatchet and tongs	1 00
20	lanterns	20 00
1	letter scale	75
4	lounges	12 00
8	mirrors	14 00
12	mats	30 00
3	maps	1 00
3	oil cans	1 00
13	pairs of handcuffs	35 00
1	police van	350 00
1	patrol wagon	350 00
1	pair runners	5 00
80	revolvers	500 00
	Ropes and stakes	15 00
3	robes	15 00
1	rogues gallery	150 00
2	straps and weights	75
4	slates	75
12	spittoons	3 00
1	sleigh	40 00
1	stretcher	6 00
3	saddles and bridles	12 00
1	safe	200 00
2	stoves	20 00
3	thermometers	75
1	telephone line	300 00
36	tin dippers	12 00
24	towels	5 00
8	tables	24 00
2	umbrella stands	2 00
4	waste baskets	1 50
4	water coolers	6 00
4	water pails	1 00
1	wagon jack	1 00
1	wardrobe	10 00
2	wash bowls	75
1	wagon van (old)	30 00
	Police signal system	7,500 00
	Total	$11,508 75

Total cost of the Department for the year	$98,363 28
Appropriation and estimated revenue	94,700 00

Expenditures.

Badges	$20 05
Books	119 29
Boarding horses	582 33
Buttons	50 00
Bly, Charles L., running wire in District 3	140 00
Billies	30 25
Carpenter work on battery room District 3	69 18
Carriage hire	64 50
Cambridge Gas Light Co.	1,010 96
Cleaning station	216 00
Clipping horses	18 00
Cloth for the department	572 94
Care of signal system	30 00
Directories for the Department	17 50
Expressing	8 60
Fresh Pond Ice Co.	45 87
Gamewell Co. (new box)	150 00
Hay and grain	220 53
Horse hire.	28 00
Medical attendance	18 00
Medicine.	3 15
Municipal signal company.	1,897 00
Morse, Charles H., running wire in District 3	743 00
New patrol wagon	392 00
New harnesses	163 00
New England Telephone Co.	616 55
Printing	312 81
Photographs for rogues gallery	18 50
Procuring evidence	49 85
Plumbing battery room, District 3	37 92
Policemen, services of	82,834 04
Repairs on wagons	113 75
Repairs on harnesses	4 55
Repairs on stations	33 57
Repairs on stable	323 00
Revolvers (new)	25 00
Salary of Chief of Police	1,700 00
Salary of Captains and Chief Inspector	4,368 00
Shoeing horses	97 13
Stationery for department	29 02
Supplies for stations	432 54
Supplies for signal system	276 10
Tagging telephone wires	113 60
Travelling expenses	137 20
West End Street Railway for tickets	230 00
Total	$98,363 28

Expenditures	$98,363 28
Receipts	11,154 10
Balance showing actual cost	$87,209 91
Balance unexpended	1,490 82

The organization of the force consists of a chief, three captains two inspectors, eight sergeants and seventy-one patrolmen. Two sergeants and eighteen patrolmen are on duty in the day-time, including two patrolmen, one at city hall and one who has charge of police station five. During the night-time there are six sergeants and fifty-three patrolmen on duty; two sergeants in each police district, one with each relief. The night sergeants at districts two and three come on duty with their respective reliefs but stop in the station to take charge of the police signal system, two patrolmen as house officers at stations one and five; two patrolmen in the wagon house and forty-nine officers divided into two reliefs.

During the past year one officer has resigned from the force, one was discharged and seven appointments were made, all under the civil service rules, thereby increasing the force five men.

There have been two hundred and sixteen (216) females arrested during the year and turned over to the matrons at station one who have sole charge of them after the arrest. I will say they have performed their duty in a very able manner to my entire satisfaction.

As in former years under the no-license law, a determined effort has been made to suppress the illegal sale of intoxicating liquors. During the year there have been one hundred and forty-two searches made for liquor, and ninety-nine convictions made in the lower court. Seventy-seven were fined, the fines amounting to $7,480, and two were sent to the House of Correction without a fine.

During the past year we have also seized, confiscated and turned over to the chief of the Massachusetts District Police a quantity of liquors.

I have bought police cloth to the amount of $572.94 during the year. The money received from the sale has been turned in to the city treasurer, and I now have cloth on hand to the amount of one hundred and ten dollars.

We have two very old officers who have been very efficient men in their day, but old age prevents them from doing further duty, William Twist and William Nickelson. I would suggest to your honor and city council the advisability of taking some action in the matter of pensioning some of our old and faithful officers. Ex-Captain Twist was appointed on the police force in 1857, and has been connected with the force from that date to the present time. Patrolman Nickelson was appointed in 1874 and had been connected with the fire department for many years before his appointment on the police force.

I would also recommend an increase of the force of two (2) men, one for police district one and one for district three.

Police Signal Service.

No one act of the city council has contributed more to the efficiency of the police force than its introduction of the police telephone and signal service. The system has been introduced into police districts two and three and is now in thorough working order. I feel that with the signal service introduced into police district one and the above increase of officers, we should have a very efficient police force and our city would be as well protected as any city in the commonwealth.

Conclusion.

In closing my report, I would not forget to acknowledge the counsel and assistance rendered me at all times by his honor the mayor and the committee on police, the confidence and coöperation of city officials generally, as well as the rank and file of this department who have so ably sustained me. Also to district attorney P. H. Cooney and assistant district attorney Pevey for their counsel and friendly advice, and tender to one and all who have in any way aided me my hearty thanks therefor. In the hope that the department as a whole may ever be able to present as clear a record as during the past year,

I am respectfully,

LOTHROP J. CLOYES,
Chief of Police.

REPORT

OF THE

BOARD OF HEALTH.

In compliance with the public statutes creating Boards of Health and defining their duties, we have the honor to make our annual report for the year ending December 31, 1891.

We respectfully call the attention of your honorable body to the following list of complaints and nuisances investigated during the year:—

Full, overflowing and offensive privy-vaults	668
Open, defective and leaky privy-vaults	145
Filthy and defective privy-houses	53
Offensive and defective water-closets	28
Swill and garbage thrown into privy-vaults	6
No proper privy-vaults	8
Full and defective cess-pools and catch-basins	34
Defective drainage, open and broken drains, etc.	202
No traps under sinks	408
Leaky and defective traps	14
Filthy yards	90
Swill, garbage, ashes, etc., in cellars and sheds	28
Filthy stables and cow-sheds	11
Manure in yards and on lots	54
Wet and damp cellars	32
Stagnant water on premises	7
Swine kept on premises	17
Miscellaneous	35
Total	1,840
Number of inspections made	5,000
Number of subsequent inspections	1,208
Total	6,208

Number of notices issued and recorded	1,348
Number of second notices issued	130
Number of special notices issued	295
Number of verbal notices given	5
Orders of the board served by constable	131
Rooms fumigated	125
Number of notices for treatment of contagious diseases sent out	539
Number of visits to premises where contagiousdiseases occurred during the year	1,074
Vaccinations	415

The Board wishes to express its satisfaction with the results obtained from the addition to its force of a second sanitary inspector, as it was impossible in a city with the area and population of Cambridge for one man to discharge in a thorough manner the duties devolving upon such a position. The field covered by preventive medicine has been during the last few years widely extended, and the work done in all branches of sanitary investigation enormously enlarged. When these investigations into the causation of diseases and into the most efficient methods for their prevention now being carried on in this country, Great Britain and on the continent of Europe are taken into consideration, it is apparent that the man who keeps himself informed on these subjects in addition to the discharge of his duties as an officer of a board of health can have little time to give to outside work, and the combination of the two can hardly allow of each receiving its proper share of attention. We also think that to insure perfect freedom of action there should be neither the desires and prejudices of patients nor the relations with fellow-practitioners to be consulted, but that the first and only object for consideration with a health officer should be the public health. We are therefore of the opinion that the time cannot be long postponed when it will be necessary that the executive officer of a board of health, if he is a doctor of medicine, shall cease to be engaged in the practice of his profession.

During the year 107 privy-vaults have been abolished by order of the Board. Prosecution has been necessary in a number of cases, and in every instance the order of the Board has been sustained by the court, which has invariably shown a just and enlarged understanding of the benefits sought to be attained by sanitary measures. The unanimity of opinion prevailing with

regard to the benefit to the public health to be derived from the abolition of privy-vaults was but slightly marred by the opinion entertained in some instances that this benefit would be gained by the abolition of a neighbor's vault, one's own particular vault being considered quite inoffensive; the fact that it had existed for years giving rise apparently in the minds of some persons to the belief that they had thereby obtained a prescriptive right to pollute the soil, contaminate the air and endanger the public health indefinitely. It is the intention of the Board to abolish as rapidly as is practicable every privy-vault in Cambridge coming within the meaning of chap. 74 of the Public Statutes, act of 1890. Perhaps it may be well to emphasize the fact that this act provides for the abolition of such privy-vaults as are injurious to the public health in the opinion of the Board of Health, not in somebody else's opinion. If the city would abolish the privy-vaults of its public schools, the example to the community would be excellent. Until the time shall come when "men gather grapes of thorns, or figs of thistles," we may expect unhealthy and morally warped men and women to be developed from children reared amid stench and filth.

During the past year the sanitary inspectors have examined the condition of a number of places where cows are kept. In nearly every instance the milk obtained from these cows is sold. These cow stables may with regard to their condition as to cleanliness be classed as follows: In 48 cases this was found to be good; in 18 fair; in 27 bad. When it is considered that a large part of this milk is consumed by infants and young children, mere cleanliness as estimated by the senses of sight and smell does not necessarily fulfil all the requirements that are needed. When one of these stables is filthy an order issues from the Board for the abatement of the nuisance, which is followed by a cleaning up of the premises, to be followed, however, in a longer or shorter time by a relapse into the former condition, and the issue of another order, a process continuing in a never-ending round. The other undesirable conditions, overcrowding, imperfect ventilation and drainage and improper situation, the Board with its present powers finds it impossible to control. The evidence now before us, by no means scanty, that certain diseases are common to men and cows and that the milk of these cows may transmit to men the disease under which

they labor; also that the milk even of healthy cows is an excellent vehicle for the conveyance of disease germs, is, we think, of such a nature as to convince an unprejudiced person that active measures should be taken looking to the control of such causes of disease.

Nor are the diseases that may be transmitted in this manner of a trivial nature. Consider some of them. Tuberculosis, more destructive of mankind in the long run than the mediæval plagues that crippled nations, but from familiarity become to us an evil to be deplored indeed, but at the same time to be accepted almost as an unavoidable calamity — an evil all the more to be deplored in that it too frequently selects as its victims those at a period of life when their value to the state is at its highest. Scarlet fever and diphtheria, diseases that rank among the most frequent, wide spread and dreaded of the affections of childhood. Typhoid fever, a disease frequent during the active time of life, which entails by its long period of convalescence a heavy expense upon its victims. Diarrhœal diseases, so fatal to infants during the heat of summer as to assume in most of our large cities the proportions of an epidemic at that time of the year, may be said to owe a part at least of their causation to milk diseased or contaminated. As our knowledge grows we may find other evil effects resulting from the unfit condition of this article of food, which on account of its great consumption by the youngest and most susceptible part of the population should be surrounded by every safeguard likely to insure its purity. To make a healthy man wholesome food is needed, and especially so at an age when he depends almost entirely upon one article. If that is bad the result is often death, or such impairment of the constitution as shall pervade the whole after lifetime. We may safely accept it as a fact that no diseased animal, or animal living amid unhealthy surroundings is likely to produce a healthy secretion: and any one who will inspect the cow stables in the thickly settled parts of a city will, we feel sure, be convinced that their conditions in many cases are not such as are conducive to the health of the animals inhabiting them. Would it not be well, then, to have the power to prevent cow stables being placed in improper situations, being over-crowded, being imperfectly or

not at all ventilated and drained, and to make cleanliness a constant and not a spasmodic virtue?

We cannot close this part of our report without reverting once again to a well worn theme. The purity of our water supply will always demand constant watchfulness over every possible source of contamination; and while the greatest care is exercised there are still potential sources of danger that may at any time become operative, and which no measures have yet been found capable of eradicating. Niles's place on the border of Fresh Pond has been alluded to frequently. From Roberts Station to the head waters of Stony Brook is a region that will always call for frequent inspection, for surely we must regard as possible sources of contamination, manufactories, privy-vaults and slaughter houses so situated that rain, melting snow and ice, the natural drainage of the land, flow from them on and below the surface of the ground into these streams. That the problem is one difficult of solution makes it the more necessary to strive for some means for the abolition or control of these elements of danger. With regard to drinking water we might learn a useful lesson from the Magian religion which considered that fluid so sacred that "no refuse was allowed to be cast into a river, nor was it even lawful to wash one's hands in one." There is a source of danger in the town of Lincoln on the premises occupied by Charles Sargent's slaughter-house and pig-pens. This area has its natural drainage into the little streams which are tributary to the formation of Stony Brook.

Some of these rivulets are but a few feet from the piggeries; and the slaughter-house occupying the highest ground on the place, all the filth about it is readily washed down by every rain into the water courses and started on its way for Cambridge. This place has been visited five times during the past two years, and though slight variations have existed, it has invariably been found in a filthy and stinking condition. Two of the piggeries are situated close by the entrance from the main road, the other one is under the slaughter-house. In this latter one an officer of the Board has found some dozen hogs wallowing in manure, and smeared with blood and excrement; the blood coming from the entrails of the slaughtered animals which had been thrown down through a trap-door as food for the hogs. We are

informed by an authority that we consider worthy of confidence that a part of the animals killed or prepared here are tuberculous cattle, stripped cows and slink calves; and certainly the appearance of some of the carcases warrant belief in the statement. Some of the flesh looked very unhealthy, and livers studded with tumors were on one occasion hanging in the slaughter-house.

On one of our visits, in the piggery near the entrance were seen crowded together hogs alive and dead, and dead hogs were also lying round the slaughter-house. All this on ground washed by rains which find their way into Stony Brook. Fresh Pond is some distance from Lincoln, but do we know what distance renders harmless the pollutions poured into a stream? And now the town of Weston, encouraged, it may be, by the immunity so long enjoyed by this abomination, has granted permission for the erection of a slaughter-house in a situation, so far as our water supply is concerned not differing much from the one already described. We believe that an effort will be soon made to obtain some abatement of this nuisance.

Diphtheria.

There were reported during the year 115 cases, a decrease of 42 cases from the previous year. The distribution of the cases was as follows: Ward 1, cases 14; Ward 2, cases 35; Ward 3, cases 9; Ward 4, cases 43; Ward 5, cases 14. The number of deaths was 15, a decrease from last year of 18. The case mortality was 13 per cent., a low one for this disease.

Scarlet Fever.

They were reported during the year 354 cases, an increase of 165 cases from the previous year. The distribution of the cases was as follows: Ward 1, cases 59; Ward 2, cases 122; Ward 3, cases 36; Ward 4, cases 105; Ward 5, cases 32. The number of deaths was 10, a decrease of 1 from the previous year. The case mortality was 2.82 per cent. Though quite prevalent, the type of the disease appears to have been mild. With a smaller population there were reported in 1884, cases 496; and in 1885, cases 397.

Typhoid Fever.

There were reported during the year 70 cases, a decrease of 6 cases from the previous year. The distribution of the cases was as follows: Ward 1, cases 9; Ward 2, cases 22; Ward 3, cases 12; Ward 4, cases 20; Ward 5, cases 7. The number of deaths was 16, a decrease of 1 from last year.

Influenza.

The recurrence of influenza during the past year undoubtedly helped to increase the number of deaths, particularly among the aged. The following table gives the total number of deaths in the causation of which this affection was certified to have been a factor: —

Sex.	Age.	Died.	Cause of death.
M.	80 years.	May 3.	Necrosis with Influenza.
M.	57 "	" 12.	Diabetic Coma superinduced by Grip.
F.	82 "	" 25.	Endocarditis Grip with Acute Bronchitis.
F.	72 "	" 26.	Acute Gastritis following Grippe.
M.	76 "	" 29.	Grip and Cardiac Disease.
M.	17 months.	Dec. 26.	La Grippe.
M.	65 years.	" 26.	La Grippe with Bronchitis.
F.	72 "	" 27.	Influenza and General Debility.

In four of these cases influenza appears to have been the primary disease. In the other cases it presumably hastened the end.

Other Diseases.

Phthisis was the cause of 197 deaths; pneumonia of 124; bronchitis of 55; a total of 376 or 27 per cent. of all the deaths; occurring during the year. Diarrhœal diseases caused 139 deaths, 127 of which were of children under 5 years of age, nearly 25 per cent. of all the deaths at that age. There was one death from anthrax (malignant pustule), regarding which the attending physician, Dr. H. O. Marcy, writes to the Board that

the patient "contracted the disease in Fla. Anthrax bacilli were demonstrated." Under date of March 2, 1891, Dr. E. A. McCarthy writes as follows regarding a death from rabies : "P. H. G. was bitten some two or three months ago. The dog was shot after biting two or more persons and other dogs." The case was also seen in consultation by Dr. J. M. Crocker

The following table gives the numbers of the sexes dying in certain age groups :

Deaths in 15 Age Groups.

Ages.	Under 1....	Under 2....	Under 3....	Under 4....	Under 5....	Total Under 5....	Under 10...	Under 15...	Under 20...	Under 25...	Under 35...	Under 45...	Under 55...	Under 65...	Under 75...	Over 75....	Total at all ages.
Males....	187	54	12	6	9	268	15	9	17	30	60	48	56	50	61	59	673
Females..	147	38	11	8	5	209	31	11	23	30	64	62	67	59	72	62	690
Total....	334	92	23	14	14	477	46	20	40	60	124	110	123	109	133	121	1,363

The number of deaths during the year, exclusive of still-births, was 1,363. The population of Cambridge in the census year 1880 was given as 52,669, and by the same authority in 1890, as 70,028, an increase of 17,359 in these ten years. With the same rate of increase the population in 1891 would be 71,764. Mr. Pike, the City Clerk, has made another estimate which is based on the proportion assumed to be borne by the number of 20,638 assessed polls to the population. This estimate gives the city a population of a little over 75,000.

The mortality per thousand living during the year was in accordance with the former method of estimating the population 18.99, in accordance with the latter method 18.17. Considering the prolonged prevalence of epidemic influenza in our midst, the mortality calculated on either estimate is favorable.

It should be borne in mind that the mortality at all ages as usually given in reports of boards of health is of very limited value as a basis on which to institute comparisons between the sanitary conditions of different places unless we know that certain of the causes influencing this mortality are fairly comparable. One city returns a mortality of 25 per thousand living,

another of 17. This might lead us to think that the sanitary condition of the former city was much inferior to that of the latter. Such may have been the fact, but the conclusion is not warranted by a mere comparison of the mortalities at all ages. Mortality is high at certain ages and low at others under the same surroundings. In Cambridge in 1885 the mortality per 1,000 living, by the usual method of including both sexes and all ages, was 20.7. We have in the State census for this year, 1885, the age and sex distribution of our population, a comparison of which with the death returns reveals the following facts: The mortality of males per thousand living under 5 years of age was 82.9; between 5 and 55 years, 8.3; over 55 years, 57.3: The greatest range was from a mortality of 2.5 per thousand living between 10 and 15 years of age to 258.2 per thousand living under 1 year of age. The mortality of females per thousand living under 5 years of age was 71.7; between 5 and 55 years, 10.5; over 55 years, 56.4. The greatest range was from a mortality of 4.9 per thousand living between 15 and 20 years of age to 180.4 per thousand living under 1 year of age. It is clear that for accurate comparisons neither age nor sex distribution can be ignored.

Occupation is another factor having a bearing on the death-rate. Dr. Ogle has investigated, among males in England and Wales between the ages of twenty-five and sixty-five years during 1880–81–82, this subject. He takes 1,000 as the "comparative mortality" figure for all males, and on this basis the comparative mortality figures of some occupations are as follows: Clergy, 556; farmers, 631; lawyers, 842; wool manufacturers, 1,032; medical men, 1,122; brewers, 1,361; earthenware manufacturers, 1,742; Cornish miners, 1,839; general laborers (London), 2,020; inn servants, 2,205. Occupation has evidently a bearing on the death-rate too important to be ignored, and yet little influenced by such sanitary measures as can ordinarily be enforced by boards of health. A comparison between the mortalities of different years in the same place will not be exposed to such serious errors, especially in a long-settled community whose interests, manufacturing and other, have become established. Still, even here, we must bear in mind that the population, save in a census year, is estimated, which estimate,

though almost certainly incorrect, will not probably be so to such a degree as to make the conclusions drawn therefrom worthless.

Isolation is in our opinion of such importance in preventive medicine that, though it is unwise "to swear by the word of any master," the opinions of investigators who are competent and honest must always be of interest. "In the case of contagious diseases it must never be asserted as impossible that the infecting material has been introduced by means of clothing, furniture, or even the physician himself, especially after a long stay in a sick chamber." (Louis Thomas) "Personally I much question whether any disease is really 'epidemic' in the sense given to those words in Dr. Matthews Duncan's paper (quoting Dr. Priestley), *i. e.*, dependent on general atmospheric or other influences which pervade a community, as distinctive from the miasms of unhealthy hospitals, or the propagation of the disease from one patient to another by inoculation. The communicable diseases are (certainly in the enormous majority of cases) spread by infection, mediate or direct, from case to case. Amospheric conditions, doubtless in many instances favor or tend to oppose such spread." (Geo. B. Longstaff.)

Notification of communicable diseases, unsupplemented by means for their isolation, is a limping measure, and isolation worthy of confidence elsewhere than in a special hospital is in many cases an impossibility.

Admitting this, what can be done while we are waiting the the establishment of such a hospital? Let us consider the magnitude of the task and the means at our disposal for its accomplishment. Upon receipt of the proper notification a placard may be placed on the house stating that the disease specified exists therein. This enables those who can read to avoid exposing themselves to that disease, or becoming media for the conveyance of the contagium from one place to another. Whatever good may be effected by this means will depend obviously on the willingness of those warned to coöperate with the Board for the public benefit. Considering the unanimity prevailing among sanitary authorities in Massachusetts regarding the value of this measure, *i. e.*, the placarding of houses, it seemed well to the Board to give the method a trial in Cambridge with regard

to two eminently communicable diseases, diphtheria and scarlet fever, and with this end in view it was decided to place on every house wherein such diseases existed a placard setting forth this fact. It was also decided that upon notification from the attending physician that the danger from contagion was over the placard should be removed and the premises fumigated by an agent of the Board for those who were unable to do this themselves, or to bear the expense of the proceeding. Those who could pay for the material used would be expected to do so. It seems almost unnecessary to add that by the words "when the danger from contagion is over" is meant that the time has come when the patient has ceased to reproduce the specific contagium of the disease so far as a competent authority is able to form an opinion on the subject. Any measures of so-called disinfection of the premises while the contagium is still being reproduced and disseminated must be of very little value. In the next place some plain directions may be sent to each house wherein a case of one of the diseases under consideration exists, setting forth the means that seem to be capable of limiting in some degree the diffusion of the contagium. Any disinfection of premises while the disease still exists is not worth consideration; sprinkling solutions of carbolic acid round the room, or hanging sheets soaked with that or any other substance before the door being such puerile proceedings the wonder is that they could ever have been seriously proposed. The most scrupulous cleanliness of the patient and his surroundings, and a plentiful supply of pure air are, however, measures regarding the value of which there can be little difference of opinion, and if these points are carefully attended to any after purification of the premises will be a matter much easier and surer of accomplishment. The explanation of the advantages of the directions given and the general supervision over their carrying out should be left with the physician having charge of the case. It has been suggested that the medical officer of the Board of Health should have personal oversight of this matter, but a little reflection will show that there are serious objections to such a course.

So far as we know, medical officers of boards of health are, in this country at any rate, physicians who are also engaged in the practice of their profession. Would it be wise under these

circumstances to place in the hands of these officers power of such an inquisitorial nature into the practice of their fellow-physicians? Health officers are not exempt from the ordinary infirmities of human nature; and the tongue is an organ not always under such control that it can be relied on never to let drop some remark that may seem to cast a doubt on the wisdom of some of the advice given by the attending physician. No stricture may have been intended, but people are apt to misunderstand, even to pervert a harmless remark; and in an art whose practice is so experimental as that of medicine, where opinions as to the best course to be pursued may and do honestly differ widely, who that has any opinions could be sure of never making a statement that might gravely affect the intimate relations which should exist between patient and physician? It is also important for the welfare of the community that the relations between medical officers of boards of health and physicians should be of a friendly nature. But the personal inspection by one physician of the patients of another physician for the purpose of enforcing certain measures most closely connected with the treatment of the case would almost certainly result in strained relations which could not be other than detrimental to the object sought for, the protection of the public health. Those familiar with English medical periodicals need not be reminded that this unfortunate condition of affairs has already arisen. In view, therefore, of all these considerations this Board is decidedly of the opinion that, so long at any rate as its medical officer is also a practitioner of medicine, during the illness of a person at home the supervision of the preventive as much as of the thereapeutic measures to be pursued should be left to the attending physician. The illness having ended in the death, removal or recovery of the patient, and a so-called disinfection of the room or rooms occupied being thought desirable, what is the nature of the contagium that we set ourselves to destroy, and what are the means ordinarily relied on for this purpose? In the opinion of the majority, perhaps, of investigators at the present time the causation of the diseases now under consideration is due to what are popularly known as the germs of those diseases. Of the exact nature and mode of action of these germs our knowledge is of quite a fragmentary nature. There are

however, some other similar or apparently similar micro-organisms about which we are not quite so much in the dark: and if the pathogenic ones we intend to destroy resemble them in any marked degree, there is a task to be accomplished that may well cause us serious misgivings as to the outcome of our conflict with these invisible but mighty antagonists. Consider the following remarks of Klein, an investigator who may be admitted to speak with authority. "These organisms, when they have found suitable nidus, multiply with enormous rapidity. It has for example, been found from observation, all conditions of moisture, medium and temperature being favorable, that some multiply in twenty minutes, others in thirty minutes, and others in forty minutes. Staphylococcus aureus, which in its growth produces a peculiar golden colored filament, grows with great rapidity when sown in a medium like faintly alkaline broth at a temperature of 37 C. Into a sterile broth tube a definite number of organisms are put say, eight cocci per cubic centimetre. If placed in an incubator for twenty-four hours at 37 C. and then counted, it is found that one cubic centimetre contains 640,000 that is to say, one organism has multiplied eighty thousand fold in the first twenty-four hours. It would not be expected that the same rate would obtain in the second twenty-four hours, because the material had been used up. After forty-eight hours growth the counting yielded 248 millions per cubic centimetre, that is, only four hundred fold. In seventy-two hours it was found that there were 1,184 millions per cubic centimetre, that is to say, during the last day each had multiplied only fivefold. As the material is used up the rate of multiplication decreases. A rabbit was inoculated subcutaneously with 20,000 bacilli of fowl cholera, and died in twenty-four hours. It was found that 15,150,000 microbes were contained in one cubic centimetre of the blood of the animal. The whole of the blood contained twelve hundred millions, showing that each bacillus in twenty-four hours had multiplied sixty thousand times.

Those organisms which have their habitat in ordinary temperatures grow very rapidly. Professor Ferdinand Cohn was the first to study the rate of multiplication on the hay bacillus. He calculated that "in two days the number of these would be

so great that the whole Atlantic Ocean would be densely peopled by them if there was sufficient nutriment, which fortunately there is not, and therefore many of them had to go to the wall."

And now as to the means by which we try to disinfect an ordinary room, that is to destroy the germs of disease that are held to linger round the premises. Judging from what is written on the subject, there can hardly be much doubt but that the main reliance is placed on the power of sulphurous acid or of chlorine to destroy microbes. We must in the present case, however, consider the probable action of the germicide employed in an ordinary room, and not the results that are obtained from its action in a test tube. "Experiment in an almost air-tight box showed that sulphurous acid, in the proportion of one per cent. of the cubic space, killed anthrax bacilli and other sensitive organisms in half an hour, but that anthrax spores and other spores of bacilli resisted 6 per cent. for days. From experiments in ordinary rooms it appeared that the unavoidable leakage was enormous, so that the theoretical proportion of the gas was only present for a very short time, if at all. Another difficulty was that the slightest protection was found to shield even sensitive microbes from the action of the fumigant; very few were killed which lay in crevices, or in the pocket of a coat, or were wrapped in filter paper. It would seem, therefore, that if precautions are taken to reduce the leakage to a minimum, fumigation by sulphurous acid or chlorine may be able to destroy most, if not all, of those microbes which are not very resistant, and which happen to be freely exposed upon the surface. *More than this cannot be expected.*" (Whitelegge). "The conditions of successful disinfection are that the material to be disinfected shall be freely exposed for a considerable time in a receptacle which does not permit the gas to escape. Disinfection of a thin layer of vaccine virus upon an ivory point, or of anthrax blood upon a silk thread, exposed in a gas-tight receptacle, cannot be taken as evidence that thicker layers of infectious material, attached to the surface of bedding and clothing, or enclosed in folded blankets, bundles of clothing, mattresses, etc., can be disinfected by the same amount of sulphur dioxide generated in a room which is not gas-tight. It has been shown that the escape

of sulphurous acid gas from a bed-chamber is very rapid, in spite of the usual precautions for stopping up crevices when such a room is to be fumigated; and infectious material, enclosed in bundles or protected by folds of blankets, etc., may escape disinfection, after having been exposed for many hours in a tightly closed chamber containing ten volumes per cent. of this gas." (Sternberg).

All this may not seem very encouraging, but the plain unvarnished truth is better than implicit reliance on measures that may fail to accomplish the desired end, and lead us to relax our efforts for the attainment of other and more efficacious methods. The course enjoined by the great sanitarian of Israel in cases of persisting "leprosy" would perhaps be effectual; but ample as are the powers entrusted to boards of health they are not yet in a position to raze a dwelling to the ground for purposes of disinfection. This subject, the limitation of communicable diseases, appears to us to be of such great importance that we must again express our opinion that, so far at any rate as diphtheria and scarlet fever are concerned, *isolation is the measure* that promises the best result. But if this isolation is to be anything more than a farce, it must in a great proportion of the cases occurring in our cities be carried out in a special isolation hospital.

All sanitary authorities are working for the limitation of the spread of communicable diseases, and the reduction to a minimum of every influence which may so effect man's general health as to make him more vulnerable to the many causes of disease by which he is surrounded. They are not so credulous as to anticipate the obliteration of disease, for they recognize that the contest is with powers whose final triumph is inevitable. But though perfect success is unattainable, it is surely worth the effort if better health can be secured, while life lasts, to toiling millions, and one of the heaviest expenses to which nations are subject diminished: namely that entailed on them by the illness of their members. The evils we undergo are comparatively easy of detection, but those that are prevented by prudent and systematic effort escape recognition by the many, and are known to the few in such an inferential manner as to be exceedingly difficult, if not impossible, of proof in very

many instances. It is a balancing of probabilities and not a mathematical demonstration. Nevertheless we must not become weary and be content to relinquish a labor which will always find its chief reward in the benefits it confers on mankind. Strivers for sanitary reform must be prepared for honest misunderstanding, and dishonest misinterpretation of their motives, for frivolous objections and irritating delays.

But firm in the faith that disease can be held in some control, that life can be prolonged, and be made better worth the having while it lasts. and that with better health is inextricably linked the better moral tone of mankind, they must not "bate one jot of heart or hope, but still bear up and steer right onward." If any sanitary measures appear to bear hard on certain persons it must be borne in mind that the intercommunications in modern life are so many and so complex that no one can suffer without effecting others; what seems to be a purely personal matter extending its influence in circles far wider than we may be able to compute. It is no exaggeration of the truth to say that the condition of the dweller in the frozen north and that of "the naked negro panting at the line" react upon each other by mediate means. In this field of sanitation, then, if anywhere, should be realized the dream of a universal brotherhood, for it admits of no dividing lines of rich and poor, of politics, of nationality, of religion.

In the early part of the year Dr. Henry P. Walcott resigned his position on the Board of Health of which he had been a member from the time of its organization. The Board takes this opportunity to express its appreciation of the valuable sanitary service rendered by him to the city of Cambridge during the past thirteen years.

D. H. THURSTON,
WM. H. WHITNEY,
E. EDWIN SPENCER,
Board of Health.

CITY OF CAMBRIDGE,
OFFICE OF BOARD OF HEALTH,
CITY HALL, Dec. 29, 1891.

To the Honorable City Council: —

This Board herewith respectfully submits its annual financial statement, it being for the year ending November 30, 1891.

Amount appropriated for Health Department			$4,500 00
Amount expended: —			
Alcohol		$6 90	
American Public Health Association, attendance		86 10	
Badges		2 50	
Blank books, blanks and stationery		50 55	
Boxes for files		19 00	
Burying animals		53 75	
Calligraph and cabinet		110 00	
Car tickets		125 00	
Cow-pox points		42 00	
Directory		2 50	
Disinfectants		7 41	
Hand stamps		6 00	
Legal services		10 00	
Oak outfit and cards		38 75	
Postage stamps and postal cards		59 00	
Printing		71 30	
Serving notices		20 80	
Typewriting		3 00	
Salaries: —			
Medical Inspector	$1,500 00		
Clerk of Board	287 50		
Sanitary Inspectors	1,890 33		
		3,677 83	
			4,392 39
Balance of appropriation unexpended			$107 61

APPENDIX.

Causes of Deaths in 1891.

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Abscess	....	....	....	....	....	1	....	1	....	....	1	1	4
Accidents	3	3	....	5	1	2	2	1	1	1	3	2	24
Addison's Disease	....	....	....	1	....	....	.. ..	1	....	....	....	....	2
Alcoholism	1	1	....	....	....	1	....	....	....	1	....	....	4
Anæmia	....	....	....	....	1	....	....	....	....	....	....	....	1
Aneurism	....	1	....	....	....	....	....	....	....	....	....	....	1
Angina Pectoris	....	....	....	....	....	....	....	....	....	1	....	....	1
Anthrax	....	1	....	...	....	....	....	....	....	....	....	....	1
Appendicitis	....	1	2	....	....	....	....	1	....	1	1	....	6
Apoplexy	3	2	5	2	6	1	6	4	3	5	5	7	49
Asthma	....	1	....	....	....	....	....	....	....	....	....	....	1
Asphyxia	....	....	....	....	....	....	....	....	1	....	....	....	1
Atheroma	....	....	....	....	....	....	....	....	1	....	1	....	2
Atrophy	....	2	2	1	2	2	7	3	8	5	2	2	36
Brain Diseases	....	1	....	....	....	1	4	1	1	....	1	1	10
Bronchitis	6	3	4	6	6	3	1	3	2	3	5	13	55
Cancer	4	4	5	2	4	5	5	5	7	4	4	3	52
Carbuncle	....	....	....	....	....	....	....	....	....	....	1	1	2
Childbirth	....	1	1	....	....	....	....	1	....	....	....	....	3
Cholera Morbus	....	....	....	....	....	....	1	1	....	....	....	....	2
Congenital Deformity	....	1	....	1	....	....	....	....	....	....	....	1	3
Convulsions	3	3	1	3	3	4	3	1	....	3	3	1	28
Croup	....	....	....	....	....	1	....	....	....	....	....	....	1
Cyanosis	....	1	....	....	....	....	....	....	....	....	....	....	1
Cystitis	....	....	1	....	1	1	.. .	....	....	....	2	3	8
Debility	3	1	8	1	3	....	2	....	4	1	2	4	29
Diabetes	....	1	....	....	2	1	....	....	....	1	1	....	6
Diarrhœal Diseases	....	1	....	1	3	8	62	35	10	11	5	3	139
Diphtheria	1	....	....	....	3	1	1	1	2	2	....	4	15

Causes of Deaths in 1891.—*Continued.*

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Dropsy	....	1	1	1	....	....	....	....	....	....	....	....	3
Dysentery	....	....	....	....	1	....	....	....	1	....	....	....	2
Dystocia	....	....	....	...	....	....	2	1	....	....	....	....	3
Eczema	1	....	....	....	....	....	....	....	....	....	....	....	1
Embolism	....	....	....	....	1	....	1	1	....	1	....	....	4
Empyema	....	....	....	....	....	....	....	....	....	1	1	....	2
Epilepsy	....	....	....	....	....	....	....	....	....	1	....	1	2
Erysipelas	....	1	....	4	1	...	1	....	....	....	....	1	8
Fever, Cerebro-Spinal	....	....	....	2	1	....	....	1	....	....	....	....	4
Fever, Scarlet	1	....	1	1	1	....	1	1	2	....	2	....	10
Fever, Typhoid	2	....	1	....	....	....	2	1	3	3	4	....	16
Fractures	....	....	....	....	1	....	....	1	....	1	....	....	3
Gangrene	2	....	....	....	....	....	....	1	....	....	....	....	3
Gastritis	1	1	....	....	...	....	1	1	....	....	....	....	4
Gout	....	....	....	....	1	....	....	....	....	....	....	....	1
Heart Diseases	7	10	15	10	14	9	11	6	9	4	12	5	112
Hernia	....	....	....	....	....	....	....	....	....	....	1	....	1
Hemorrhage	....	....	....	....	....	1	....	....	....	....	....	....	1
Hydrocephalus	....	....	....	....	....	2	....	....	....	....	....	....	2
Indigestion	....	....	....	....	....	....	1	....	....	....	....	....	1
Inanition	1	3	....	....	1	....	1	....	3	1	2	1	13
Influenza	....	....	....	....	1	....	....	....	....	....	....	3	4
Insanity	....	....	....	....	....	...	....	....	....	1	1	1	3
Intestinal Disease	....	....	....	....	....	....	....	1	....	....	1	....	2
Jaundice	...	....	1	....	1	....	2	....	....	....	....	....	4
Kidney Disease	1	....	....	....	1	....	....	....	1	1	....	....	4
Laryngismus Stridulus	....	....	1	....	....	....	....	....	....	1	....	....	2
Laryngitis	....	1	....	....	....	....	....	....	....	....	....	....	1
Lead Poisoning	1	....	....	....	....	....	....	....	....	....	....	....	1
Liver Disease	....	1	....	....	1	....	1	....	1	2	...	....	6
Lung Disease	1	2	....	2	1	....	1	....	1	1	1	1	11
Malaria	1	....	....	....	....	....	....	....	....	....	....	....	1
Measles	....	2	....	3	....	....	3	....	....	....	....	....	8
Meningitis	2	5	8	6	7	8	8	4	10	7	4	2	71

Causes of Death in 1891.—*Continued.*

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Murder	...	2	1	1	....	....	....	1	....	....	....	....	5
Myelitis.	1	....	....	....	....	....	1	....	2	....	....	1	5
Necrosis	....	....	1	1	1	....	....	....	....	....	....	....	3
Nephritis	2	2	2	6	3	4	4	3	5	4	6	2	43
Occlusion of Intestines	....	1	....	1	1	....	1	....	....	....	....	2	6
Old Age	1	3	3	....	3	3	1	....	1	4	2	2	23
Paralysis	3	3	1	2	3	1	1	....	1	4	2	5	26
Perforation of Intestines	....	....	1	....	....	....	....	....	....	....	....	....	1
Peritonitis	3	1	2	1	1	3	1	2	1	1	2	2	20
Phthisis	13	11	22	17	18	16	19	14	16	16	16	19	197
Pleurisy	....	....	....	1	1	....	....	....	....	....	....	1	3
Pneumonia	11	9	12	20	19	4	6	1	5	4	13	20	124
Premature Birth.	1	4	1	1	1	1	2	....	....	1	4	4	20
Prostatitis	....	1	....	....	....	....	....	....	....	....	....	....	1
Pyæmia	....	....	....	....	....	....	....	....	....	....	....	1	1
Rabies	....	1	....	....	....	....	....	....	....	....	....	....	1
Rheumatism	....	1	1	1	....	1	....	....	....	2	....	....	6
Septicæmia	....	....	....	....	....	....	....	....	1	....	....	....	1
Spinal Disease	....	1	....	....	....	....	....	....	....	....	....	....	1
Stillborn	5	6	10	10	6	4	13	8	6	7	13	7	95
Stomach Disease	....	....	....	....	....	....	....	....	....	1	....	....	1
Suicide	....	....	....	2	1	1	2	....	....	....	1	....	7
Syphilis	....	....	....	....	1	....	1	....	....	....	....	....	2
Tabes Mesenterica	....	....	....	....	....	1	....	...	....	....	....	...	1
Tetanus	....	....	....	....	....	....	....	1	....	....	....	....	1
Thrombosis	....	....	....	....	....	....	...	....	...	1	....	....	1
Tuberculosis	....	1	1	3	....	....	2	1	....	2	1	....	11
Tumor	....	....	1	....	....	....	1	....	....	....	1	....	3
Ulceration of Intestines	....	....	....	....	....	....	....	....	....	1	....	....	1
Umbilical Hemorrhage	....	....	....	....	....	....	....	....	....	....	....	1	1
Unknown	7	1	3	5	....	2	3	3	1	3	3	1	32
Uræmia	....	1	....	....	....	...	....	....	....	1	....	....	2
Whooping Cough	....	3	1	3	..	1	3	....	....	1	....	....	12
	92	108	120	127	128	94	191	112	110	117	130	129	1458

Cases of Typhoid Fever, Scarlet Fever, and Diphtheria reported to the Board of Health during the Year 1891.

	Wards.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
	1	0	0	0	0	0	0	1	4	3	0	1	0	9
	2	1	0	2	1	0	0	0	7	4	4	1	2	22
TYPHOID FEVER.	3	0	0	1	0	0	1	1	3	2	2	0	2	12
	4	1	0	1	0	1	0	1	5	2	5	2	2	20
	5	0	0	0	0	1	0	0	0	2	2	1	1	7
Totals.....		2	0	4	1	2	1	3	19	13	13	5	7	70
	1	5	8	4	3	7	7	5	2	1	4	6	7	59
	2	7	15	9	10	16	6	8	2	8	13	14	14	122
SCARLET FEVER.	3	4	1	4	1	4	0	3	1	2	4	1	11	36
	4	5	12	6	5	9	9	5	6	13	18	8	9	105
	5	4	2	6	4	5	1	1	0	1	0	1	7	32
Totals.....		25	38	29	23	41	23	22	11	25	39	30	48	354
	1	1	1	0	2	1	1	1	0	1	4	1	1	14
	2	6	2	1	3	0	2	6	2	0	3	5	5	35
DIPHTHERIA.	3	1	1	0	0	0	1	0	0	0	3	1	2	9
	4	4	3	3	7	2	2	1	2	5	2	6	6	43
	5	0	1	0	0	7	1	0	1	0	0	2	2	14
Totals.....		12	8	4	12	10	7	8	5	6	12	15	16	115
Grand totals.....		39	46	37	36	53	31	33	35	44	64	50	71	539

REPORT

OF THE

SUPERINTENDENT OF LAMPS.

CITY OF CAMBRIDGE,
OFFICE OF SUPERINTENDENT OF LAMPS,
CAMBRIDGE, MASS., NOV. 30, 1891.

To the Honorable the City Council:—

I HAVE the honor to submit to you the annual report of the Lamp Department for the year ending November 30, 1891.

The amount appropriated	$48,975 65
Estimated revenue	75 00
Total appropriation	$49,050 65
Balance unexpended	1,060 73

Amounts expended are as follows:—

For Arc lighting	$19,634 75
Incandescent	5,366 67
Gas consumed	13,394 80
Care of lamps	7,215 52
Repairs	173 85
Setting posts	13 00
Removing posts	225 00
Moving from City Building	7 50
Repairs on ladders	6 25
Chimneys	116 91
Oil	284 67
Matches	7 93
Glass	165 82
Carriage hire	90 07
Carriage, harness and robes	242 95
Electric repairs	9 00
Tools	10 22
Printing	18 65
Car tickets	25 00
Sundries	81 36
Superintendent's salary	900 00
	$47,989 92

The expense for electric lighting has been as follows :—

Arc Lighting.

Amount of bills rendered	$20,019 82
Amount of deduction for outages	385 10
Amount expended for arcs	$19,634 72
The price of arc lamps to June 1	$180 00
The price of arc lamps from June 1 to December 1	115 00
The average price for the year	147 50
The average cost per lamp for all expenses	150 42

Incandescent Lighting.

Amount of bills rendered	$5,652 90
Amount of deduction for outages	286 23
Amount expended for incandescents	$5,366 67
Price per contract (each lamp)	$30 00
Price per lamp for all expenses	32 23½

The number of hours in which one or more lamps have failed to burn are :

For arc lamps	8,182 hours
For incandescents	28,623 hours
Total outages	36,805 hours

Averaging 681 hours and 50 minutes per month, or 22 hours and 5 minutes per day for arcs, and 2,385 hours and 15 minutes per month, or 78 hours and 25 minutes per day for incandescents.

The electric lights have burned on the average 10 hours and 50 minutes per day.

The smallest number of arc lamps in use in any one day	114½
The largest number of arc lamps in use in any one day	164½
The average number per day	137
The smallest number of incandescents in use in any one day	142
The largest number of incandescents in use in any one day	197
The average number in use per day	164

The expense of gas lighting has been as follows .

Amount expended for gas	$13,394 80
Amount expended for care of lamps	6,293 30
Amount expended for repairs	144 88
Amount expended for setting posts	9 00

Amount expended for glass	29 06
Cost of gas lighting, including all expenses, has been	29 14
Cost of gas per lamp	19 64
Cost of care per lamp	9 23
Cost of care per day	2½
The largest number of lamps in use in any one day	722
The smallest number of lamps in use in any one day	637
The average number of lamps in use each day	682

The aggregate number of lamps burned during the year was 248,932.

These lamps have burned 2,480,835 hours, consuming 8,986,555 cubic feet of gas.

The average consumption per lamp was 13,177 cubic feet. The average length of time the lamps have burned per night is 10½ hours.

The expense of lighting with oil has been as follows:—

Amount expended for oil	$281 32
Amount expended for chimneys	116 91
Amount expended for matches	7 93
Amount expended for care of lamps	922 22
Amount expended for repairs	46 09
Cost of chimneys per lamp	$1 18
Cost of repairs per lamp	46½
Cost of care per lamp	9 31½
Cost of care and maintenance	13 25
Average cost for all expenses	18 41

3,350 gallons of oil have been consumed, averaging 34 gallons per lamp, at an average of .06¾ cents per gallon.

The whole number of lamps of all kinds in use November 30, 1891, was 1,049. Of this number 164½ were arcs, 143 incandescents, 637 gas, 98 oil, and 7 naphtha.

Although all the principal thoroughfares are provided for, there are quite a number of streets in various portions of the city which are very poorly lighted. Most of these streets have a large number of people living upon them, and are as a rule difficult to travel upon after dark. Among these may be mentioned Norris, Clay, Jackson, Sargent, Dudley, Harvey, Madison, Donnell, Montgomery and Tuttle streets of Ward Five, Parker, Foster, Farwell place, Brewer, Murray, South, Dyke, Grant, Sands and Cleveland streets in Ward One, Green,

Franklin, Kinnaird, Hayes, Allston, Blackstone and Somerset streets in Ward Four, Pine, Clark, Hastings and Union streets in Ward Two. There are several of the above mentioned which have quite a large population and no lights of any kind whatever, and I would earnestly recommend that these streets may have a sufficient number of lights placed upon them to make them safe for public travel.

When the matter of a new contract with the Cambridge Electric Light Company came before the Committee on Lamps last March, they learned that a number of cities were being furnished with electric arc lamps at a considerably lower price than that paid by the City of Cambridge, and they accordingly set to work to investigate the matter. Acting under instructions from the committee, the Superintendent of Lamps wrote to the proper authorities of the principal cities throughout the New England States, also a few cities in other States, concerning the lamps in use and the price paid for the same. From information gathered at this time it was learned that the cities of Springfield and New Haven, also, Portland, were using 1,200-candle power lamps, and that these were giving entire satisfaction.

Springfield was visited and inspection of the circuits covering the greater portion of the city was made, together with the electric light station. The committee was much pleased with the manner in which the city was lighted; also the arrangement at the electric station. It was noticed that the wires of the company were run almost wholly upon poles, and not upon trees, as was the case in our city, a fact which goes a great ways towards a satisfactory service. At this time an opportunity was given the gentlemen to compare the 2,000 with the 1,200-candle lamp, and while there was a slight difference in the amount of light in favor of the former, yet the latter gave a very fine and at the same time a steadier and more agreeable light to the eye. As a result of this investigation a conference was had with the president of the Cambridge Electric Light Company in relation to the introduction of the 1,200-candle lamp in this city, the outcome of which was that a circuit of these lamps was placed upon trial in Ward Three. They proved so satisfactory not only to the committee, but also to the people of this ward generally, that steps were taken toward lighting the whole city as far as possible

with these lamps. The order authorizing the committee to contract for four hundred and twenty-four arc lamps of the 1,200-candle power was, after considerable discussion, passed and steps were taken at once to procure the necessary supplies. It was expected that the system would be completed by the first of October, but owing to the inability of the company to procure poles of the necessary size and kind, the work has been delayed until at this writing there are but one hundred and sixty-four of the lamps placed and in service. The company has made every effort to obtain these poles, and the reason for not fulfilling this part of the contract cannot be properly charged to them. That the company are the greater losers there can be but little doubt, as they are receiving but about one-half the revenue from the city they would provided the whole number of lamps were in use.

When the circuits are all completed we shall have one of the best lighted cities in this part of the country, and persons will be enabled to drive throughout the city in almost any direction and meet nothing but brilliantly lighted thoroughfares, a privilege the driving public will without doubt appreciate very highly.

A new contract has just been made with the Cambridge Gas Light Company, by the terms of which the city is to use not less than three hundred gas lamps, each lamp to burn five feet per hour during the hours of lighting, at one dollar and twenty cents per thousand cubic feet. This contract is to continue for the term of three years from November sixteenth, eighteen hundred and ninety-one.

Respectfully submitted,

B. OTIS DANFORTH,
Superintendent of Lamps.

REPORT

OF THE

SEALER OF WEIGHTS AND MEASURES.

OFFICE OF SEALER OF WEIGHTS AND MEASURES.
CAMBRIDGE November 30, 1891.

To the Honorable the City Council : —

I HAVE the honor to submit to you the annual report of the department of Weights and Measures.

The net amount of appropriation	$1,567 79
Estimated revenue	400 00
Total appropriation	$1,967 79
Amount expended	1,560 44
Balance unexpended	$407 35

	Scales.	Weights.	Dry Measures.	Wet Measures.	Yard Sticks.	Coal Baskets.	Milk Cans.	Total.
No. Inspected.	1,721	2,127	244	1,105	55	111	22,268	27,631
No. Adjusted.	505	83	4	8	..	..	.....	....
No. Sealed.	1,206	2,030	232	1,049	..	..	19,617	....
No. Condemned.	10	14	8	8	..	15	2,651	....

The expenditures of the department have been as follows:

For Salary of Sealer	$350 00
Salary of deputy	370 00
Salary of assistant	149 75
Wagon and harness	262 35
Board of horse	180 00
Scales and weights	126 00
Horse hire	26 75
Stamps, brands etc.	24 67
Printing	22 08
Fitting up sealing room	18 88
Horse shoeing	12 73
Sundries	17 23
	$1,560 44

The amount collected as fees for sealing was $467.79.

Respectfully submitted,

B. OTIS DANFORTH,

Sealer.

REPORT

OF THE

INSPECTOR OF MILK AND VINEGAR.

CAMBRIDGE, December 1, 1891.

To the Honorable the Mayor and City Council of Cambridge :—

GENTLEMEN: In conformity with the statute, the Inspector of milk and vinegar submits the following annual report:

On the first day of May, or within thirty days thereafter, the Inspector is required to issue licenses to all persons who convey milk in teams or otherwise, for the purpose of selling the same within the city limits, the license fee being fifty cents and the license to be renewed annually. He is also required to register the name of every one selling milk from a store or stand, for which the license fee is also fifty cents, no renewal being necessary so long as business is done in the same place and in the same name. Licenses must also be issued to every one selling oleomargarine, the license fee being fifty cents, and the license holding good for one year from the first of May.

It is the duty of the Inspector, either himself or by his agents, to enter all places where milk is kept for sale, and take samples for analysis; also to take samples of milk when it is carried round for sale in teams or otherwise; and to examine samples of vinegar offered for sale, in regard to strength and general purity.

The total number of licenses issued during the year is . .	299
Number of annual milk licenses	202
Number of milk licenses to stores	85
Number of oleomargarine licenses	12

For which the sum of $149.50 was received and paid to the City Treasurer.

The number of samples of milk and vinegar collected and analyzed during the year is as follows :—

Total number of samples	3,112
Number of samples of milk	2,999
Number of samples of standard quality	2,798
Number of samples below standard	201
Number of warnings sent	161
Number of samples of vinegar	113
Number of samples of standard quality	91
Number of samples below standard	22
Number of warnings sent	22
Number of prosecutions for selling milk of poor standard quality	7
Number of convictions	7
Number fined	5
Number placed on file	3

In one case only did the Inspector agree to the latter disposition of the case.

The Public Statutes provide penalties as follows:—

For neglecting or refusing to license or register for the sale of milk: in the case of a milk peddler a fine not less than thirty nor more than one hundred dollars; in the case of a store-keeper a fine not exceeding twenty dollars.

For selling, exposing for sale or having in possession with intent to sell, adulterated milk, or milk not of good standard quality, or milk to which water or any foreign substance has been added, or milk from sick or diseased cows, or cows fed on the refuse of distilleries: for a first offence a fine not less than fifty nor more than two hundred dollars; for a second offence a fine not less than one hundred nor more than three hundred dollars; and for a subsequent offence, a fine of fifty dollars and imprisonment in the House of Correction for not less than sixty nor more than ninety days.

For selling, exposing, etc., as pure milk, milk from which any part of the cream has been removed: penalties as above.

For selling, exposing, etc., skimmed milk, except from cans or other vessels marked as required by statute: penalties as above.

For selling, exposing, etc., skimmed milk containing less than nine and three-tenths per cent. of milk solids exclusive of fat: penalties as above.

For obstructing in any manner the Milk Inspector or his assistants in the performance of their duties: a fine of not less than one hundred nor more than three hundred dollars, or by imprisonment for not less than thirty nor more than sixty days.

For neglecting or refusing to register for the sale of oleomargarine: a fine not exceeding twenty dollars.

For selling, exposing etc., as cider vinegar, vinegar not made exclusively of apple cider: a fine not exceeding one hundred dollars.

For selling, exposing, etc., vinegar containing any artificial coloring matter, or containing any preparation of lead, copper, sulphuric acid, or any ingredient injurious to health: a fine not less than fifty nor more than one hundred dollars.

For selling, exposing, etc., any vinegar not of standard quality, *i. e.*, containing less than four and one-half per cent. of absolute acetic acid, or, in the case of cider vinegar, containing less than two per cent. by weight of cider vinegar solids: a fine not exceeding one hundred dollars.

The appropriation for this Department was $1,000.00, to which $50.00 was afterwards added. This money has been used as follows:—

Salary of Inspector	$600 00
Salary of Collector	200 00
Paid for samples of milk	65 20
Paid for samples of vinegar	4 90
Paid for chemical apparatus	50 00
Paid for horse hire	23 00
Paid for car tickets	35 00
Paid for chemicals, printing, stationery, etc.	63 14
Unexpended balance	8 76
Total	$1,050 00

The collection of samples of milk for analysis has been carried on in the same manner as last year. Samples are bought from the dealers all over the city, and in the collection of samples from milk teams, the use of a horse has greatly facilitated the work. A much larger area can be gone over in this way by the collector, and more samples collected from teams than was before possible, Great care is used to have the milk thoroughly mixed before a sample is taken, and to insure this the collector now carries a large eight quart can into which the milk is turned before taking a

sample from a milk team. When collecting samples from stores the clerk can generally provide an empty can, or if not, a large pitcher by means of which it is possible to thoroughly mix the milk. The samples thus collected are paid for, as this is found to cause less complaint on the part of the dealers, and also in case of prosecution, makes it unnecessary to prove that the particular can of milk from which the sample was taken was intended for sale.

The samples thus collected are then carried to the office for analysis. Each sample is turned into a glass jar, its specific gravity taken with a lactometer, and an estimate made of the percentage of fat by means of Feser's lactoscope.

Any sample which shows by these tests that it will probably fall short of the required standard, is set aside for further analysis.

As a full description of the methods of analysis was given in the report for 1890, it will scarcely be necessary to report it here. The analysis is performed in exactly the same manner as there described, and no change has been made in the legal standard for pure milk, which calls for 13 per cent. of milk solids in every month of the year except May and June, when it is reduced to 12 per cent. A warning is sent to any person found selling milk which does not conform to this standard, or if previous warnings have been sent without effect, a complaint is made out and the case brought into court.

It will be seen that the number of poor samples found, is rather larger than the number of warnings sent and cases prosecuted; the explanation is that more than one sample is often taken from the same person, both of which may be of poor quality, in which case only one warning is sent; or a sample may conform so closely to the standard as to make it inexpedient to complain of it. On the whole the quality of the milk supply has been rather better than that of last year, and the amount sufficient to meet the demand. It is always found that as soon as the supply becomes scanty, the quality begins to fall off; when the milk supply is abundant it often happens that for several days at a time, no sample is found that falls below the standard; as soon as the supply becomes scanty, some samples are always found which show evidence of watering, and such samples are generally

found in stores; the milkmen reserve their best milk for their family trade, and give the stores what is left. There has always been some question among dealers as to just what was required in the sale of skimmed milk, and to remove any possible doubt the following notice was mailed to all milk dealers early in the year:—

CITY OF CAMBRIDGE.

Important Notice to Dealers in Skimmed Milk.

OFFICE OF THE INSPECTOR OF MILK,
CITY HALL, CAMBRIDGE.

It has been the habit of many storekeepers to purchase an inferior quality of milk, *i. e.*, milk from which a portion of the cream has been removed, and to sell the same without any statement or comment to all persons who call for "milk." Acting under instructions from milk dealers who have found it to be to their own interests to encourage the sale of this inferior milk, retail dealers have been led to believe that in so doing they violated no law, provided the can and measure out of which the skimmed milk was sold was marked with a certain piece of indented tin, often nearly illegible, attached to the can or the measure. This is an error, and this notice is intended to call attention to the provision of the Public Statutes relating to the sale of skimmed milk and the decisions of the courts in relation thereto, in order that dealers may be fully informed of the requirements with which it is proposed to hold them to a strict compliance.

It is contrary to law in Massachusetts to sell skimmed milk, unless it is sold as skimmed milk, and out of a can, vessel or measure DISTINCTLY marked with the words SKIMMED MILK in uncondensed Gothic letters not less than one inch in length CONSPICUOUSLY placed on the outside of such vessels.

It has been held that a sale of skimmed milk to a person who called for "milk," even from a package properly marked, is a violation of the statute, because the demand for "milk" implies a demand for milk of standard quality, and the dealer who undertakes to supply a customer under such circumstances, is bound to supply only milk of standard quality and not skimmed milk. It is the intention of this department to enforce the provisions of the milk statutes in accordance with this construction, and to make complaint against all dealers who render themselves liable. *Dealers in skimmed milk will therefore be careful to sell skimmed milk ONLY when it is distinctly called for and in no case where "milk" is called for UNLESS the customer is at the same time orally informed that the milk sold is not whole milk, but is skimmed milk.* Violation of this rule will be prosecuted without previous warning.

The marking of cans and measures containing skimmed milk must be DISTINCT and CONSPICUOUS. This department does not admit that a piece of indented tin is such a mark as the law requires; and no mark will be passed as DISTINCT in which the letters are of the same color as the ground on which the letters are placed.

F. A. DUNBAR,
Inspector of Milk.

CAMBRIDGE, February 1, 1891.

Samples of vinegar have been collected and analyzed during the past year, taken, as in the case of milk, from dealers all over the city. Nearly all were of the required degree of acidity, namely, four and one-half per cent. by weight of absolute acetic acid. In the case of cider vinegar it is required in addition that the sample contain not less than two per cent. by weight of cider vinegar solids. All the samples found to be not of good quality were deficient in the amount of solids, while conforming to the law in the amount of acidity. No complaint can be made of such a sample if sold simply as vinegar, or standard vinegar, as many dealers are now in the habit of calling it. When sold as cider vinegar, it does not fulfil the requirements of the statute. It is probable that most customers when they call for vinegar mean cider vinegar, but few of the dealers will warrant it as such when distinctly asked the question; and many of the wholesale vinegar dealers now make out their bills as pure standard vinegar, even when asked for a barrel of cider vinegar by the retailer; then if any complaint is made as to quality, they simply refer to the bill and say they never sold the barrel as cider vinegar. Much of the vinegar which conforms to the law both in acidity and amount of solids, is manufactured from various kinds of refuse starch, then colored artificially, and enough apple solids added to bring the residue up to the required amount, and give the flavor of apples to the vinegar. Such vinegar, while not injurious to health, is made more cheaply than cider vinegar, and can thus undersell it. The analysis of vinegar is conducted in the same manner as last year; the acidity is determined by means of a solution of sodic hydrate of known strength, and the amount of solid residue by the evaporation of a certain quantity of vinegar over boiling water. A full description of this analysis can be found in the report for 1890.

Respectfully submitted,

FRANK A. DUNBAR.

Inspector of Milk and Vinegar.

REPORT

OF THE

INSPECTOR OF WIRES.

CAMBRIDGE, November 30, 1891.

To the Honorable, the City Council of the City of Cambridge:—

GENTLEMEN: In presenting this, my second report, it gives me satisfaction to note the various improvements being made by the several electric companies, who are allowed to use the public thoroughfares of Cambridge.

The Cambridge Electric Light Co. is making the most radical changes. Their old lines of poles through Main street, Cambridge street and North avenue are being replaced by fine sticks of timber, which carry the wires above the trees, thus removing one of the greatest embarrassments to their business — the burning of the limbs of trees and the causing of "grounds" on their circuits.

Locations for the railway wires have also been given on these poles, thus allowing the removal of the present iron poles.

A new contract with the city for additional lights has carried the lighting wires into all parts of the city; if this work is completed in as satisfactory a manner as the trial circuit was, our city will have excellent electric light lines.

The New England Telephone and Telegraph Co. has improved its lines by the introduction of a large number of metallic circuits, which have been run in a much more substantial manner than has been their practice.

A conduit has been laid under the sidewalk on Front street connecting with the Main street conduits. Improvements have been made on their Portland, Columbia and Mt. Auburn street lines by replacing the old lines of poles with new square poles.

In April the Inspector of Wires was made Superintendent of

the Fire Alarm and Police Telegraph. Since then a third wire has been run for the Police Signal system at Station Two, which has greatly improved the system. The police private telephone line has been changed to a metallic circuit and new telephones introduced. This department also ran the wires for the Police Signal system at Station Three, which is now in successful operation.

The fire department private telephone line has been changed to a metallic circuit system, with high resistance bridging bells, thus giving the department excellent service. A telephone has been placed in the fire alarm office connected with the Exchange; this will prove of great value, as two alarms have already been sent out, requests for which were sent over this telephone.

Our fire alarm telegraph has been improved by the addition of a new circuit, giving five circuits in place of the four which was the original number introduced over twenty years ago.

Seventy-two poles, which were completely decayed in the ground, have been removed and the lines made as secure as possible by the replacing of all the old wire with new. The large number of poles being set by various companies has forced the city to large expense in changing its wires to conform to the new work going on; these changes have been made with due regard to future wants by the placing of larger and more substantial *arms* than the immediate conditions require.

Attention is earnestly called to the fact that we now have but five circuits in our fire alarm system when we should have ten, if we hope for satisfactory results.

The fire alarm office is now located on the fourth floor of the City Building in Brattle square. The location is unsatisfactory for the following reasons: —

The repeater room is small and inconvenient. There are not rooms enough for the men and those we have are too far from the repeater.

The circuits cannot be conveniently divided from this building, and in case of a fire in the University Press or in the wooden buildings back of Moore's block, the city would lose four out of five of its circuits leaving the whole city, with the exception of Ward Four, without a telegraph.

Our wagon is now kept under the stable connected with Truck One in a location entirely unsuited for the purpose.

The number of wires in the city has now become so great, that the troubles on our system are greatly multiplied and, consequently, a man should be kept in the office all the time to test the circuits and receive notices of wires down, or any other defect, that the trouble may be immediately attended to.

During the year several accidents have happened and in each case the department has been able to place the liability upon responsible parties. Accidents must be expected as long as our wires are above ground; therefore it seems desirable to watch closely the various experiments being tried in underground work in several of our large cities.

Respectfully submitted,

CHAS. H. MORSE,

Inspector of Wires.

REPORT

OF THE

SCHOOL COMMITTEE.

In compliance with Section 146 of the Rules and Regulations, the Superintendent herewith submits his seventeenth annual report for the year ending December 31, 1891.

Summary of Statistics.

I.—Population.

Population of Cambridge by the State Census for 1890	70,028
Number of children in the city between five and fifteen years of age, May 1, 1891, as reported by the Truant-Officers	12,160

II.—Schools.

1 Latin School, with eight rooms.
1 English High School, with thirteen rooms.
10 Grammar Schools, with one hundred and nineteen rooms.
22 Primary Schools, with one hundred and six rooms.
6 Kindergartens, with seven rooms.
2 Evening Drawing Schools, with seven rooms.
1 Evening High School, with six rooms.
3 Evening Schools, with twelve rooms.

Whole number of Day Schools	40
Whole number of separate rooms	253

III.—School-Houses.

For the Latin School	1
For the English High School	1
For the Grammar Schools	10
For both Grammar and Primary Schools	2
For the Primary Schools	21

IV.—Teachers.

Number of teachers in Latin School 10
Male teachers, 3; female teachers, 7.
Number of teachers in English High School 16
Male teachers, 4; female teachers, 12.
Number of teachers in Grammar Schools 126
Male teachers, 12; female teachers, 114.
Number of teachers in Primary Schools 104
Number of teachers in Kindergartens 11
Number of teachers in Evening Drawing Schools, 1890–91 7
Average number of teachers in Evening High School, 1890–91 9
Average number of teachers in Elementary Evening Schools, 1890–91 . . 30
Whole number of teachers* in Day Schools, including the teacher of music, the teacher of drawing, the teachers of sewing (2), and the secretary and librarian of the High Schools 272
Number of teachers who have attended the Normal Schools 183
Number of teachers who have graduated from Normal Schools 161

V.—Pupils.

Attendance at All the Day Schools, 1887 to 1891.

Year.	Number of Pupils Registered.	Average Number Belonging.	Average Daily Attendance.	Per cent of Attendance.
1887	11,157	9,429	8,672	92.0
1888	11,496	9,756	8,964	91.9
1889	11,855	9,962	9,141	91.8
1890	11,914	10,089	9,325	92.4
1891	12,468	10,520	9,659	91.8

Attendance at the High Schools, 1889 to 1891.

L. Stands for Latin School, E. for English High School.

Year.	Number of Pupils Registered.	Average Number Belonging.	Average Daily Attendance.	Per cent of Attendance.
1889	L. 239 E. 397 } 636	L. 217 E. 345 } 562	L. 207 E. 331 } 538	L. 95.5 E. 96.1 } 95.8
1890	L. 224 E. 473 } 697	L. 204 E. 409 } 613	L. 199 E. 396 } 595	L. 96.4 E. 96.7 } 96.6
1891	L. 231 E. 552 } 783	L. 213 E. 480 } 693	L. 204 E. 464 } 668	L. 95.7 E. 96.6 } 96.3

*Temporary assistants and members of the training class are counted as six teachers; the sum of their salaries being equal to the amount paid that number of regular teachers.

Attendance at the Grammar Schools, 1887 to 1891.

Year.	Number of Pupils Registered.	Average Number Belonging.	Average Daily Attendance.	Per cent of Attendance.
1887	5,334	4,628	4,317	93.3
1888	5,421	4,760	4,427	93.0
1889	5,602	4,864	4,517	92.9
1890	5,668	4,891	4,557	93.2
1891	5,793	5,052	4,701	93.1

Attendance at the Primary Schools, 1887 to 1891.

Year.	Number of Pupils Registered.	Average Number Belonging.	Average Daily Attendance.	Per cent of Attendance.
1887	5,276	4,301	3,877	90.1
1888	5,485	4,465	4,031	90.3
1889	5,617	4,537	4,086	90.0
1890	5,321	4,403	4,011	91.1
1891	5,499	4,481	4,065	90.7

Attendance at the Kindergartens.

Year.	Number of Pupils Registered.	Average Number Belonging.	Average Daily Attendance.	Per cent of Attendance.
1890	228	183	163	89.6
1891	393	294	225	76.7

Number of Pupils Graduated from, and Admitted to, the High Schools and the Grammar Schools, 1890 and 1891.

L. stands for Latin, E. for English High School.

Year.	Graduated from High Schools.	Admitted to High Schools.	Graduated from Grammar Schools.	Admitted to Grammar Schools.
1890	L. 17 E. 37 } 54	L. 61 E. 240 } 301	398	1,161
1891	L. 36 E. 48 } 84	L. 83 E. 247 } 330	419	1,116

Number of Pupils belonging to the Evening Drawing Schools, with the Average Attendance, 1887 to 1891.

1887.	1888.	1889.	1890.	1891.
234	216	228	166	188
107	101	120	106	110

Number of Pupils belonging to the Evening Schools, with the Average Attendance, 1887 to 1891.

1887.	1888.	1889.	1890.	1891.
311	356	425	739	1,020
124	149	181	298	362

Number of Pupils in the Private Schools in Cambridge, including the Parochial Schools, 1887 to 1891.

1887.	1888.	1889.	1890.	1891.
1,651	1,785	2,037	2,050	2,127

Table showing the Number in each Class in the Latin School, December, 1891.

Class.	Boys.	Girls.	Total.	Per cent.
First.....	10	14	24	.104
Second.....	24	16	40	.174
Third.....	30	16	46	.200
Fourth.....	37	18	55	.239
Fifth.....	32	33	65	.283
Total.....	133	97	230	

Table showing the Number in Each Class in the English High School, December, 1891.

Class.	Boys.	Girls.	Total.	Per cent.
First	17	42	59	.102
Second	49	75	124	.216
Third	64	86	150	.261
Fourth	117	125	242	.421
Total	247	328	575	

Table showing the Number in Each Class in the Grammar Schools December, 1891.

Grade.	Boys.	Girls.	Total.	Per cent.
Ninth	237	259	496	.091
Eighth	280	375	655	.121
Seventh	430	469	899	.166
Sixth	474	476	950	.175
Fifth	518	533	1,051	.193
Fourth	707	672	1,379	.254
Total	2,646	2,784	5,430	

Table showing the Number in Each Class in the Primary Schools and Kindergartens, December, 1891.

Grade.	Boys.	Girls.	Total.	Per cent.
Third	617	586	1,203	.266
Second	732	614	1,346	.298
First	1,062	907	1,969	.436
Total	2,411	2,107	4,518	
Kindergartens	161	156	317	

Summary of the School Census, as taken by the Truant Officers, May, 1891.

[The Statutes make it the duty of the School Committee annually to ascertain the names and ages of all persons belonging to their respective towns and cities on the first day of May, between the ages of five and fifteen years.]

Number of children in the city five years old or more, but less than fifteen	12,160
Number in Public Schools five years old or more, but less than fifteen	9,809
Number in Public Schools fifteen years or more, as shown by the school register	1,142
Number in Private Schools five years old or more, but less than fifteen	1,409
Number not attending school five years old or more, but less than eight	580
Number not attending school eight years old or more, but less than fourteen	172
Number not attending school fourteen years old or more, but less than fifteen	190
Whole number not attending school five years old or more, but less than fifteen	942
Number in the city five years old or more, but less than six	1,093
Number eight years old or more, but less than fourteen	7,463

VI.—Finances.

[For the financial year ending Dec. 1, 1891.]

Cost of instruction in day schools	$196,938 70
Cost of instruction in evening schools	3,909 75
Cost of care and repairs of school-houses (day schools)	39,466 94
Cost of care and repairs of school-houses (evening schools)	1,461 67
Cost of text-books and supplies	12,386 15
Incidental expenses	699 88
Expended on new High school-house	64,956 64
Expended on Morse school-house	53,188 63
Total expenditures for all school purposes	$373,008 36
Deducting receipts from the Hopkins Fund ($764.33) and for tuition of non-resident pupils ($663.00), actual cost of the schools to the city	371,581 03
Assessed value of real and personal estate, May, 1891	$70,581,670 00
Ratio of expenses for school purposes to the valuation of 1891	.0053

Cost of Instruction in the Day Schools, 1876 to 1891.

[Salaries of teachers, superintendent, agent, and truant officers.]

Year.	No. of Teachers January 1.	Average No. of Pupils.	Whole Cost.	Cost per Pupil.
1876	176	7,066	$164,818 00	$23 32
1877	174	7,139	151,946 65	21 28
1878	173	7,028	136,491 20	19 42
1879	173	6,957	132,570 49	19 05
1880	182	7,175	130,371 75	18 17
1881	192	7,434	132,501 10	17 82
1882	200	7,898	137,328 55	17 38
1883	212	8,194	144,457 60	17 63
1884	216	8,414	152,290 62	18 09
1885	224	8,650	158,640 13	18 33
1886	233	9,218	165,277 42	17 92
1887	237	9,429	172,135 06	18 25
1888	241	9,756	175,773 80	18 02
1889	251	9,962	180,816 26	18 15
1890	263	10,089	190,558 21	18 89
1891	272	10,520	196,938 70	18 72

Cost of the Day Schools, 1876 to 1891.

[The expenditures for new school-houses are not included.]

Year.	No. of Teachers January 1.	Average No. of Pupils.	Whole Cost.	Cost per Pupil.
1876	176	7,066	$200,894 09	$28 43
1877	174	7,139	180,974 36	25 35
1878	173	7,028	162,437 77	23 11
1879	173	6,957	158,196 21	22 73
1880	182	7,175	153,967 56	21 45
1881	192	7,434	158,282 84	21 29
1882	200	7,898	166,230 52	21 04
1883	212	8,194	177,149 93	21 62
1884	216	8,414	203,234 56	24 15
1885	224	8,650	206,806 09	23 90
1886	233	9,218	207,536 46	22 51
1887	237	9,429	222,679 19	23 61
1888	241	9,756	225,408 57	23 10
1889	251	9,962	229,421 31	23 03
1890	263	10,089	241,980 84	23 98
1891	272	10,520	249,491 67	23 71

Statistics taken from the Fifty-fifth Annual Report of the Secretary of the State Board of Education.

Number of cities and towns: cities, 25; towns, 326	351
Number of public schools	7,239
Number of pupils of all ages in the public schools during the year	376,986
Number of persons over fifteen years of age attending the public schools	33,904
Per cent of attendance based upon the average membership	90
Number of persons employed as teachers in the public schools during the year: men, 1,016; women, 9,630; total	10,646
Number of teachers who have graduated from Normal Schools	3,070
Average number of months the public schools have been kept for the entire year	8.9
Number of High Schools	244
Number of teachers in High Schools	875
Number of pupils in High Schools	26,294
Amount expended upon the public schools, exclusive of the expense of school buildings	$6,652,972 67
Cost of new school-houses, permanent improvements, and ordinary repairs	1,901,572 90
Entire expenditure for public school purposes	8,554,545 57

Special Institutions.

The following are the statistics of the attendance and expenses of the Massachusetts pupils in the several schools for the deaf, the blind, and the feeble-minded.

AMERICAN ASYLUM AT HARTFORD, CONN.

Number of Massachusetts beneficiaries, 1890–91	75
Paid for these pupils	$10,827 27

CLARK INSTITUTION, NORTHAMPTON.

Number of Massachusetts beneficiaries, 1890–91	84
Paid for these pupils	$14,525 00

HORACE MANN SCHOOL, BOSTON.

Number of Massachusetts beneficiaries, 1890–91	92
Paid for these pupils	$9,685 46

PERKINS INSTITUTION FOR THE BLIND.

Number of Massachusetts beneficiaries, 1890–91	96
Annual appropriation from the State	$30,000 00

SCHOOL FOR THE FEEBLE-MINDED, WALTHAM.

Number of Massachusetts beneficiaries, 1890–91	145
Annual appropriation from the State	$25,000 00

Cities of Massachusetts arranged according to the Percentage of their Taxable Property Appropriated to the Support of the Public Schools.

For 1890-91, by the State Valuation of 1890.	Cities.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.	For 1890-91, by the State Valuation of 1890.	Cities.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.
1	Gloucester	$.004-48	14	Cambridge	$.003-22
2	Brockton	.003-92	15	Salem	.003-17
3	Woburn	.003-88	16	Worcester	.003-17
4	Malden	.003-65	17	Lynn	.003-05
5	Northampton	.003-59	18	Lowell	.003-02
6	Taunton	.003-58	19	Newton	.003-00
7	Somerville	.003-51	20	Springfield	.002-75
8	Quincy	.003-47	21	New Bedford	.002-70
9	Haverhill	.003-37	22	Lawrence	.002-65
10	Fitchburg	.003-36	23	Fall River	.002-22
11	Chelsea	.003-33	24	Newburyport	.002-17
12	Waltham	.003-33	25	Boston	.001-92
13	Holyoke	.003-25			

Towns and Cities of Middlesex County.

For 1890-91, by the State Valuation of 1890.	Towns and Cities.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.	For 1890-91, by the State Valuation of 1890.	Towns and Cities.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.
1	Westford	$.004-70	28	Boxborough	$.003-34
2	Holliston	.004-57	29	Waltham	.003-33
3	Marlborough	.004-50	30	Framingham	.003-27
4	N. Reading	.004-49	31	Townsend	.003-23
5	Natick	.004-28	32	Tyngsboro	.003-23
6	Stoneham	.004-22	33	Cambridge	.003-22
7	Wilmington	.004-21	34	Acton	.003-20
8	Ashland	.003-93	35	Sherborn	.003-19
9	Woburn	.003-88	36	Everett	.003-04
10	Wakefield	.003-86	37	Lowell	.003-02
11	Ayer	.003-78	38	Newton	.003-00
12	Littleton	.003-78	39	Maynard	.002-99
13	Medford	.003-77	40	Watertown	.002-99
14	Arlington	.003-71	41	Lexington	.002-95
15	Hudson	.003-71	42	Tewksbury	.002-86
16	Malden	.003-65	43	Weston	.002-74
17	Reading	.003-63	44	Sudbury	.002-63
18	Concord	.003-61	45	Carlisle	.002-46
19	Hopkinton	.003-60	46	Billerica	.002-45
20	Shirley	.003-58	47	Bedford	.002-39
21	Pepperell	.003-51	48	Dunstable	.002-39
22	Somerville	.003-51	49	Dracut	.002-24
23	Winchester	.003-47	50	Belmont	.002-23
24	Ashby	.003-44	51	Burlington	.001-96
25	Chelmsford	.003-42	52	Groton	.001-89
26	Wayland	.003-40	53	Stow	.001-77
27	Melrose	.003-36	54	Lincoln	.001-73

TABULAR VIEW.

JANUARY 1, 1892.

Prepared by the Secretary of the School Committee.

Names of Schools.	Teachers.	Salaries.	No. of Pupils, Jan. 1, 1892.
Latin School.....	William F. Bradbury.....	$3,000	230
	Theodore P. Adams.....	2,000	
	Charles W. Parmenter.....	1,500	
	Helen M. Albee.....	950	
	Charlotte C. Barrell.....	950	
	Caroline Drew.....	570	
	Mary C. Hardy.....	800	
	Margarette M. Leighton...	950	
	Emma M. Sawyer.....	950	
	Jennie S. Spring.....	950	
English High... ..	Frank A. Hill.....	3,000	575
	Edwin L. Sargent.....	2,000	
	Charles H. Morse.....	1,500	
	Charles F. Warner.....	1,500	
	Clara A. Armes.....	950	
	Harriet E. Bird.....	950	
	Carrie Close.....	950	
	Myra I. Ellis.....	1,000	
	Henrietta E. McIntire.....	500	
	Mary Moulton.....	875	
	Louisa P. Parker.....	950	
	Caroline A. Sawyer.....	950	
	Emma A. Scudder.....	950	
	Martha R. Smith.....	950	
	Maria E. Spare.....	950	
	Delia Stickney.....	1,050	
	Mattie L. Babbitt*.....	500	
Allston.....	Benjamin W. Roberts.....	2,000	610
	Mary I. Vinton.....	700	
	Susan M. Adams.....	620	
	Sara A Bailey.....	620	
	Mary Blair.....	620	
	Mary M. Brigham.....	620	
	S. Alice Fell.....	570	
	Evelyn B. Kenny.....	620	
	Ada M. Litchfield.....	400	
	S. Agnes Mulloney.....	620	
	Emily R. Pitkin.....	620	
	Lizzie M. Ricker.....	620	
	Ida G. Smith.....	620	
	Carrie M. Williams.....	620	

*Secretary and Librarian of the Latin and English High Schools.

Tabular View.—*Continued.*

Names of Schools.	Teachers.	Salaries.	No. of Pupils, Jan. 1, 1892.
Harvard	James S. Barrell	$2,000	760
	Arthur A. Lincoln	1,000	
	Ada H. Wellington	700	
	Margaret B. Wellington	700	
	Addie L. Bartlett	470	
	Theresa C. Bartlett	620	
	Elizabeth L. Buckley	520	
	Frances Fabyan	620	
	Estelle J. French	620	
	Eliza S. Getchell	620	
	Etta M. Houghton	620	
	Isabella H. Howe	620	
	M. Florence McGlashan	570	
	Annie M. Street	620	
	Emma F. West	400	
	Hortense O. Young	620	
Morse { Grammar. / Primary.	Mary A. Townsend	1,500	{ 369 / 152
	Mary E. Towle	700	
	Lizzie J. Baldwin	620	
	Marie B. Daniel	400	
	Ellen M. Dewing	570	
	Annie M. Dow	620	
	Lucy A. Hall	520	
	Georgia E. Lancaster	620	
	Emily Richardson	570	
	Marcia E. Ridlon	520	
	Mary E. Sawyer	620	
	Gertrude D. Sprague	400	
Peabody	Frederick S. Cutter	1,800	278
	Addie F. Cleary	570	
	Susan Allison	520	
	Anna F. Bellows	620	
	Abbie L. Chapman	620	
	Charlotte A. Ewell	620	
	Florence E. Frost	620	
Putnam	Thomas W. Davis	2,000	611
	Frederick W. Eveleth	1,000	
	Eliza M. Hussey	700	
	Annetta Bruce	620	
	Mary A. Carmichael	620	
	Lydia B. Collier	620	
	Anna M. Dormer	620	
	Sarah M. Grieves	620	
	Annie B. Joselyn	620	
	Louise A. Keeler	620	
	Augusta G. Mirick	620	
	Eliza S. Paddack	620	
	Louise A. Stickney	620	
	Mary M. Sullivan	620	
Shepard	Edward O. Grover	2,000	508
	Nellie A. Hutchins	700	
	Mabel E. Blake	620	
	Harriet V. Dever	620	
	Emma A. Falkner	620	
	Emily F. Fessenden	620	

Tabular View.—*Continued.*

Names of Schools.	Teachers.	Salaries.	No. of Pupils, Jan. 1, 1892.
Shepard	Harriet Foster	$620	
	Ellen J. Hunt	620	
	Gertrude Hunt	620	
	A. Estelle Ingraham	620	
	Flora C. Ingraham	620	
	Evelyn J. Locke	620	
Thorndike	Ruel H. Fletcher	2,000	553
	Harriet A. Townsend	700	
	Laura Emmel	520	
	Grace W. Fletcher	620	
	Emma A. Hopkins	620	
	Abby A. K. Howard	620	
	Elizabeth G. Hutchison	620	
	Martha A. Martin	620	
	Mary E. Nason	620	
	S. Louise Regal	620	
	Abby S. Taylor	620	
	Annie A. Trelegan	470	
	Lydia A. Whitcher	620	
Washington	John W. Freese	2,000	515
	Annie E. Whittier	700	
	Eldora J. Clark	620	
	Lucy A. Downing	620	
	Mary L. Ells	620	
	Alice P. Fay	570	
	Adeline M. Ireson	620	
	Adelaide A. Keith	620	
	Winifred L. Kinsley	570	
	Margaret J. Penney	620	
	Hattie Shepherd	620	
	Mary E. Stiles	620	
	Abby M. Webb	620	
Webster	John D. Billings	2,000	683
	Arthur N. Whitney	1,000	
	Alice C. Phinney	700	
	Martha N. Hanson	700	
	Ada A. Billings	620	
	Ella E. Buttrick	620	
	Charlotte M. Chase	620	
	Helen T. Chaplin	520	
	Anna M. Ford	570	
	Helen M. Joyce	570	
	Josie F. Lamprey	620	
	Anna S. Lamson	620	
	Gertrude A. Long	620	
	Ruth D. Loring	470	
	Minnie V. Reid	570	
	Hattie E. Shepard	470	
Corlett	Fannie P. Browning	630	77
	Ellen A. Kidder	470	
Agassiz { Grammar / Primary	Maria L. Baldwin	700	{ 106 / 168
	Anna Batchelder	400	
	Mary G. Carpenter	620	
	Rosina C. Karcher	620	
	Minnie A. Noyes	570	
	Mary A. Parsons	400	
	Gertrude E. Sackrider	520	

Tabular View.—*Continued.*

Names of Schools.	Teachers.	Salaries.	No. of Pupils, Jan. 1, 1892.
Boardman	Mary A. Lewis	$660	370
	Christine R. Denyven	620	
	Mary Alice Gregg	620	
	Nellie E. Hastings	620	
	Elizabeth J. Karcher	620	
	C. Florence Smith	620	
	Sarah E. Stewart	620	
Bridge	Elizabeth E. Dallinger	630	74
	Emily C. Dallinger	620	
Cushing	Isadore I. Foster	630	80
	Ida B. Holt	620	
Dana	Maria F. Williams	640	130
	Emily J. Allen	620	
	Abby A. Lewis	620	
	Georgia E. Martin	400	
Dunster	Susan E. Wyeth	640	128
	Mary M. Burnham	400	
	Nellie M. Colby	620	
Felton	Sarah J. Gunnison	640	197
	Louise M. Britton	570	
	S. Emma Davis	400	
	Minnie F. Munroe	620	
Gannett	Sarah J. A. Davis	640	170
	Anna M. Jones	620	
	Mary A. Rady	620	
	Carrie H. Smith	620	
Gore	Frances E. Pendexter	680	555
	Ella R. Avery	620	
	Addie M. Bettinson	620	
	Anna E. Callahan	620	
	Addie H. Dale	470	
	Elizabeth B. Gahm	620	
	Anna M. Keough	400	
	Katie L. McElroy	570	
	Mary C. McNally	570	
	Mary E. Mulloney	620	
	Emma J. Ross	620	
Holmes	Marianne M. Webb	635	104
	Ellen M. Cyr	620	
	Isabel Foster	620	
Lassell	Nellie F. Ball	640	209
	Rose V. Collier	570	
	Cora A. Reycroft	620	
	Frances E. Whoriskey	620	
Lowell	Lucy E. Cyr	640	118
	Malvina Joslin	470	
	Agnes J. McElroy	400	
Otis	Ellen N. Leighton	660	373
	Fannie Allen	620	
	Martha H. Butler	620	
	Agnes F. Collier	470	
	Josephine M. Doherty	620	
	Luella M. Marsh	620	
	Ellen C. Walsh	620	
	Kate F. Wellington	620	

Tabular View.—*Continued.*

Names of Schools.	Teachers.	Salaries.	No. of Pupils, Jan. 1, 1892.
Quincy	Charlotte E. Jewell	$630	80
	Lucy C. Wyeth	620	
Reed	Margaret Kidd	640	187
	Margaret T. Burke	570	
	Harriet N. Keyes	620	
	Julia A. Robinson	620	
Riverside	Elizabeth A. Tower	640	117
	Amanda M. Alger	620	
	Mary A. Burke	620	
Sargent	Mary A. Brown	640	205
	Christina D. Barbey	620	
	Fanny C. Hartwell	620	
	Ella M. Leaver	620	
Stearns	Helen M. Ward	640	179
	Maria J. Bacon	620	
	Ellen A. Cheney	620	
	Eva A. Taylor	620	
Tarbell	Emma J. Young	640	183
	Mary A. Davis	620	
	Nellie F. McCarthy	620	
	Carrie P. Pierce	470	
Willard	Amelia Wright	680	459
	Sally N. Chamberlain	620	
	M. Lizzie Evans	620	
	Belle F. Gulliver	620	
	Julia S. Gushee	620	
	Mary E. G. Harrington	620	
	Louise W. Harris	620	
	Kate M. Lowell	620	
	Emma C. Otis	620	
	Eliza D. Watson	620	
	Grace R. Woodward	620	
	Laura Wright	620	
Wyman	Fannie E. M. Dennis	645	280
	M. Carrie Dickman	620	
	Georgiana B. Dutcher	620	
	Mary M. Gilman	620	
Wellington. Gram.	Herbert H. Bates	2,000	360
Wellington. Prim.			231
	Lelia A. Mirick	1,000	
	Susie G. Lumbert	620	
	Training Class	3,000	
Kindergartens. Boardman	Mabel S. Eddy	570	59
	Grace Mulloney	440	
Dunster	Helen Willson	620	35
Riverside	Ellen I. Hutchison	620	55
	Martha Adams	440	
Moore St.	Harriet E. Ryan	620	61
	Mary Stewart	400	
Gore	Selma E. Berthold	620	60
	Mary Burnett	440	
Lowell	Linda Gates	620	47
	Alice S. Brown	440	

Tabular View.—*Continued.*

Names of Schools.	Teachers.	Salaries.	No. of Pupils, Jan. 1, 1892.
Teachers of Sewing	Agnes Gordon.....	$600	
	Georgia A. Jones.....	600	
Director of Drawing	Walter F. Brackett.....	1,700	
Director of Music..	Frederick E. Chapman....	1,500	
Truant Officers....	Moses M. Child.....	900	
	Francis M. Mason.....	900	
	John Collier.....	900	

SUPERINTENDENT—Francis Cogswell	$3,000
AGENT—Sanford B. Hubbard	1,700
CLERK—Althea B. Frost	500

The Wellington School is a training school, composed of grammar and primary pupils taught by young ladies, gradnates of Normal Schools and candidates for the office of teacher, under the direction and with the assistance of the master of the school and his assistants.

Temporary assistants and members of the Training Class are counted as six teachers, the sum of their salaries being about eqnal to the amonnt paid to that nnmber of regnlar teachers.

The Post-office Addresses of the Several Schools are as Follows:

CAMBRIDGE—English High, Peabody,* Washington,* Agassiz, Dunster, Holmes, Lowell, Quincy, Riverside.

CAMBRIDGEPORT—Latin, Allston,* Harvard,* Morse,* Webster,* Boardman, Bridge, Dana, Felton, Gannett, Sargent, Stearns, Tarbell, Wellington, Willard.

EAST CAMBRIDGE—Putnam,* Thorndike,* Gore, Lassell, Otis.

NORTH CAMBRIDGE—Shepard,* Reed, Wyman.

MOUNT AUBURN—Corlett,* Cushing.

Summary.

Number of pupils in Latin School	230
Number of pupils in English High School	575
Number of pupils in Grammar Schools	5,430
Number of pupils in Primary Schools	4,749
Number of pupils in Kindergartens	317
Total	11,301
Number of pupils belonging to the Public Schools, Jan. 1, 1891. . .	11,079
Increase	222

*Grammar Schools.

Average annual increase of pupils from 1860 to 1880 (inclusive)	219
Increase of pupils, 1881	403
Increase of pupils, 1882	448
Increase of pupils. 1883	280
Increase of pupils, 1884	165
Increase of pupils, 1885	589
Increase of pupils, 1886	267
Increase of pupils, 1887	371
Increase of pupils, 1888	173
Increase of pupils, 1889	249
Increase of pupils, 1890	368
Increase of pupils, 1891	222
Number of Schools	40
Number of School-rooms	253
Number of Teachers	272

Cost of Instruction.

Latin School	$12,967 50	For each pupil	$56 38
English High School	18,767 50	" " "	32 64
Training School	6,263 88	" " "	10 59
Grammar Schools	82,401 00	" " "	15 18
Primary Schools	58,515 65	" " "	12 32
Kindergartens	5,901 00	" " "	18 61
Teachers of Sewing	1,233 00		
Director of Music	1,520 00		
Director of Drawing	1,700 00		
Superintendent	3,000 00		
Agent	1,560 00		
Clerk	409 17		
Truant Officers	2,700 00		
	$196,938 70	For each pupil	17 43
Cost of instruction in Evening High School			1,191 25
Cost of instruction in Elementary Evening Schools			1,851 50
Cost of instruction in Evening Drawing Schools			867 00
			$3,909 75

Remarks on the Statistics.

The increase over the last school year in the number of pupils registered is 554; in the average number belonging, 431; in the average daily attendance, 334. In the per cent of attendance there has been a decrease of six-tenths of one per cent. The number belonging to the schools in December, 1890, was 11,079; in December, 1891, 11,301; an increase of 222. The entire cost of the day schools, excluding the expenditures for new school-houses and new furniture, exceeds that of last year by

$7,510.83, but the cost per pupil is 27 cents less. In the entire cost of instruction the increase is $6,380.49; a decrease in the cost per pupil of 17 cents. While Cambridge expends a large amount for her schools, there are *two hundred and eleven* towns and cities in the State which make a larger expenditure in proportion to their wealth. In a list of the twenty-five cities, arranged numerically according to the percentage of their taxable property appropriated to the support of public schools for the year 1890–91, Cambridge is the *fourteenth*, and compared with the fifty-four towns and cities of our county, Cambridge is the *thirty-third*. In a list of the towns and cities of the State, arranged numerically according to the sum appropriated for each child between five and fifteen years of age, Cambridge is the *thirty-ninth*.

These statistics relating to the schools of the State are taken from the fifty-fifth annual report of the Secretary of the Board of Education.

School Accommodations.

When the Morse school-house was built it was expected that the schools in Ward Two would be relieved by changing the district lines between Wards Two and Four; but, notwithstanding the number of pupils transferred from these schools, the number remaining gives an average of forty-seven pupils to each school-room in the ward, and six of these rooms do not accommodate over thirty-five pupils, being intended for recitation-rooms only. The pressure for additional room is in the section of the ward east of Columbia Street, in the Allston and Wellington school-districts. Were it west of Columbia Street in the Harvard district, the Latin School building would afford the necessary relief, as classes belonging to the Harvard School might conveniently be accommodated there, but it is not practicable to take pupils from schools near their own homes and send them to those more remote. The Harvard school-district already includes one side of the street on which the Wellington school-house stands, and reaches within one street of the Allston. It cannot therefore be extended in this direction without including pupils who would be obliged to pass the schools to which they now belong on their way to other schools in the Harvard district.

Additional accommodations should be provided at once for the schools in this part of the ward, and the most economical and feasible plan is the enlargement of the Wellington school-house. The school-rooms in Ward Three have an average of forty-eight pupils to a room. A new primary school-house should be built in this ward. In Ward Four there is one room in the Webster school-house in which there is no regular class, but this is needed for a recitation room. There are also three vacant rooms in the Morse school-house, but one of these will be used in April. All the rooms in the Willard building are occupied, but the average number of pupils to a teacher is below the average in the other primary schools. Ward Four, therefore, has ample accommodations for the present. In Ward One the schools have been more seriously affected by the opening of private schools than in any other part of the city. A parochial school has also drawn pupils from the public schools, and yet there is only one unoccupied school-room in the ward. In Ward Five all the school-rooms are occupied except one in the Wyman school-house, and the number of pupils in this school requires that another class be formed at once. In April the primary schools in Wards Two and Three will be crowded, and it may be necessary for the city to hire a room in the vicinity of the Wellington School, or for the Committee to refuse to admit any new pupils to this school. With an annual increase of from two to three hundred pupils, one school-house should be built every year, and this should be done whether a large school-house is built or a small one, as unoccupied rooms in one part of the city are not available in another.

It is unnecessary to speak of the work done upon the school-houses during the past year by the direction of the Committee on Public Property, for a full account of this is given in the excellent report of the Superintendent of Public Buildings. The improvement made in the ventilation of several of the school-houses, however, should be mentioned as a recognition of the important service this Committee has rendered.

Changes in the Corps of Teachers.

Resignations and appointments have been as follows: —

Latin School — 1 resignation, 1 appointment.
English High School — 0 resignation, 1 appointment.

Grammar Schools — 7 resignations, 16 appointments.
Primary Schools — 4 resignations, 9 appointments.
Kindergartens — 1 resignation, 1 appointment.

The resignations and appointments here given are those of a permanent character. Teachers out of school on leave of absence, and those appointed to take their places, are not included in these numbers.

Text-Books and Supplies.

At the meeting of the Board in October, the Committee on Supplies submitted a detailed report of the expenditures of that Committee for the year.

This report was accepted, and it was voted that it be incorporated in the annual report of the School Committee. The report, with the omission of the names of the firms and individuals among whom the expenditures were divided, is as follows:

"The Committee on Supplies begs leave to submit the following report of its doings for the school year ending July 1, 1891; it being the seventh annual report of this Committee to the Board: —

Stock on hand July 1, 1890		$1,767 80
Purchases and expenditures to July 1, 1891		14,463 07
Total		$16,230 87
Delivered to the Overseers of the Poor	$22 15	
Sold for cash to pupils	153 81	
Delivered to Schools and Officers	13,969 82	
		14,145 78
Stock on hand July 1, 1891		$2,085 09

The purchases and expenditures have been:—

For text-books	$5,998 16
Miscellaneous supplies	3,870 24
Desk and reference books	261 33
Apparatus and furnishings	1,626 72
Drawing and writing books	1,409 58
Printing ($466.19); expressage ($363.44)	829 63
Diplomas ($117.29); repairing books ($197.40)	314 69
Tuning pianos ($12.50); book covers ($140.22)	152 72
	$14,463 07

Deducting from the value of books and supplies delivered to Schools and Officers, as above.		$13,969 82
The sales in the High Schools	$82 75	
The damages collected	45 06	
And profit on sales from the office	18 99	
		146 80
We have, net cost of all Schools and Officers . .		$13,823 02

or an average cost, per pupil, of $1.248 against $1.334, for the year 1890; $.96 for the year 1889; $1.068 for the year 1888; $1.051 for the year 1887; $1.17 for the year 1886; and $1.88 for the year 1885. The average cost per pupil per annum for seven years has been $1.244.

The cost of each grade of schools for text-books and supplies is as follows: —

	Net Expense.	Average per Pupil				
		1891.	1890.	1889.	1888.	1887.
High Schools	$2,872 28	$3.855	$5.362	$4.054	$3.944	$3.842
Grammar Schools	6,019 01	1.231	1.618	1.071	1.367	1.363
Mixed Schools	1,022 72	1.203	.985	.746	.953	.736
Primary Schools	2,159 61	.503	.286	.276	240	.197
Kindergartens	195 68	.648	.....	.....	.....	.....
Evening Schools	582 66	.....	.....	.....	.....	.....
Special Teachers. Sewing....$70 10; Music .... 10 55; Drawing.. 70 83	151 48	.....	.....	.....	.....	.....
Miscellaneous expenses (not chargeable to any grade)	819 58	.....	.....	.....	.....	.....
	$13,823 02	$1.248	$1.334	$.960	$1.068	$1.051

Seen in the aggregate, the annual expenditure of $14,000 for text-books and supplies may seem large, but when we see that the average annual expense per pupil for the past seven years is only $1.244, there seems to be little ground for criticism in regard to extravagance.

In comparison with the report of last year there is on the whole a decrease of $.086 in the average expense per pupil, due to the smaller number of books discarded, and to the fewer changes in text-books; but the average expense per pupil in

the Primary and Mixed Schools is a little larger than last year, because of the purchase of additional sets of readers for these schools. Heretofore the readers have been changed about from room to room and no one teacher was responsible for their care and condition, but now each teacher is supplied with all the books required for the year and is held accountable for them, and the actual expense in the long run will undoubtedly be less than under the former method.

The Evening Schools show an increase over last year of $320.45, due to the opening of one new school, and a larger attendance in the others, but the good work accomplished in these schools fully justifies the expenditure.

The free text-book law has now been in force for seven school years, and, in the opinion of this Committee, the results show the wisdom of those who, believing the public schools should be free in fact as well as in theory, secured its adoption. It may not be out of place at this time to call attention to the benefits derived from this law, as seen by one who has been closely connected with its workings since it first went into operation. First and foremost is the fact that the children remain in school longer than formerly, as shown by the increased number of pupils in the upper grades of the Grammar Schools and in the High Schools. This is especially noticeable in the High Schools, where attendance is not compulsory under the statutes, and where the expenses for books and supplies were formerly no small item in the education of a large family of children.

The average number of pupils belonging to our High Schools in 1884, when the law was passed, was 398. Today the number is 834, an increase of nearly 110 per cent, whereas the increase in the Primary Schools, during the same time, was slightly over 11 per cent. Part of this increase is undoubtedly due to the establishment of our Manual Training School, but, deducting the entire membership of that school, we would still show an increase of over 70 per cent, which, it would be fair to assume, is largely due to the advantages of this law.

Other benefits are : a saving of time in beginning and carrying on the school work, since all the pupils are supplied with books and materials at the opening of the school, as well as during the year when changes occur in the course of study, and are ready

to begin their work at once; — there is a greater facility, as well as economy, in procuring the latest and best text-books, if a change is deemed advisable, without the public criticism which formerly embarrassed school committees in their efforts to improve the standard; — habits of neatness and cleanliness in the care of the books are inculcated in the minds of the chil, dren, as well as a wholesome respect for the property of the City; — and there is, also, a large saving to the community, as a whole, in the expense; since the City is able to buy the text-books at from 20 per cent to 40 per cent, and the miscellaneous supplies at from 50 per cent to 75 per cent less than the parent formerly paid.

The figures given above show that the average expense per pupil in our Grammar Schools the past year for books and supplies of all kinds, was only $1.231; formerly the parent paid $1.25 for a geography. All the books and materials are carefully accounted for; the Agent makes a personal examination twice a year, of the books and apparatus in the schools; and the teachers work faithfully to prevent waste or extravagance. Perhaps the amount of damages collected from the pupils for wilful or unnecessary injuries to their books is a fair indication of the result of the teachers' efforts, and it is pleasing to note that only $45.06 was assessed for damages this year, against $52.53 last year, and against $105.66 the first year the law was in force.

The average life of text-books is five years, instead of two as under the old system, and a large number of the discarded books are used each year in part payment of the new books. The value of these exchanges the past year was $873.71.

In the light of all these advantages, there can be little doubt that the free text-book law has come to be an essential part of our system of public school education."

The Committee on Text-books and Supplies closed their report last year in the following words: "The city is fortunate in having in the position of agent one who thoroughly understands its duties, and works early and late to perform them." The closing words of the report for this year, were it not written by the chairman himself, might well be, "The city has been fortunate in having in the position of chairman of this

Committee, during the seven years that the free text-book law has been in force, one who thoroughly understood its duties, and who has given freely of his time in performing them." The effect of introducing at the beginning thorough business methods in the conduct of this department has been greatly to the advantage of the city, as it will be so long as the present system is continued.

New Text-Books.

The text-books adopted during the year are : —

For the Latin School,— Creighton's History of Rome ; Mlle. Solange, *Julliot ;* L'Abbé Constantin, *Halévy ;* Materials for French Composition, *Grandgent.*

For the English High School,— Macaulay's Select Essays, (Allyn & Bacon) ; Mlle. Solange, *Julliot ;* L'Abbé Constantin, *Halévy ;* Materials for French Composition, *Grandgent.*

For the Grammar Schools,— New National Third Music Reader ; New National Fourth Music Reader ; Whiting's Sixth Music Reader ; King's Picturesque Geographical Reader, No. 1 ; Fables and Folk Stories, *Scudder.*

As Books of Reference,— Fiske's American Revolution and Barnes's Brief History of the United States.

Classification and Promotion.

No problem connected with the administration of schools is more difficult of satisfactory solution than that of the classification and promotion of pupils. During the past year the Bureau of Education has issued a circular of information, entitled, " Promotions and Examinations in Graded Schools." It was prepared by Dr. Emerson E. White of Cincinnati, Ohio, a man eminently qualified to treat of the subject. As a basis for the discussion of this question, it was deemed proper to gather up the experience of the leading cities of the country, as embodied in their present systems or practice, and to this end a circular of inquiry was sent to the superintendents of seventy cities.

The circular called for information on the following points : 1. How often are pupils promoted ? 2. How many classes or

grade-divisions are there in each room as a rule? 3. In what branches or exercises are all pupils in a room taught as one class, that is, together? 4. How is the fitness of pupils for promotion determined? 5. If written examinations are used to determine fitness: (*a*) How often do they occur (in each grade)? (*b*) By whom are the questions prepared? (*c*) By whom are the pupils' papers read and graded? (*d*) How are the results used in promoting pupils? (*e*) Why are promotion examinations used? 6. Emphasize and explain any special plan or system which may be deemed peculiar to your city or of special value.

In considering this question as related to our own school system, I shall make free use of the facts presented by Dr. White in his circular of information, and also give in his own words many of his practical statements and suggestions.

No one questions the importance of having a properly graded course of study, but in discussing the classification and promotion of pupils it is not necessary to consider what subjects shall be taught. The element of time, however, must be considered. It is necessary to determine the length of the school period, and what subdivisions shall be made. From the circular of information we learn that in most American cities the school period is twelve years, and that it is divided into three equal periods, the first four years being called primary; the next four, intermediate or grammar; and the four upper grades, high school; that this division has been recommended by the National Educational Association, and adopted by the United States Bureau of Education and several of the state departments of public schools; that it has not been universally adopted by the cities; that in Boston the primary schools include only three years of the course, the grammar schools six years, and the English high school three years; that in Cincinnati the "district" schools include five years of the course, the intermediate three years, and the high schools four years; that in Philadelphia and several other cities, the grades below the high school are divided into three groups or periods, the first two grades being called primary, the next three grades secondary, and the next three grades grammar.

Dr. White expresses the opinion that, all things considered, it seems best to permit the elementary course to end with the eighth year.

The public schools of Cambridge are divided into four grades; namely, kindergarten, primary, grammar, and high school. The kindergarten has but recently become a part of the school system. The number of schools of this grade is only six, containing in all about three hundred children. The pupils in the primary and grammar schools are classified in nine grades, the primary schools having three grades, and the grammar schools six. In the English High School there are four grades, and in the Latin School five. Under this classification children entering the lowest grade of the primary schools, and advancing regularly from grade to grade, graduate from the grammar schools in nine years, from the English High School in thirteen years, and from the Latin School in fourteen years. Many pupils, however, advance more rapidly. Twenty-five per cent of those who graduate from the grammar schools do the work in five years, and five per cent additional in four years. In the English High School a few pupils graduate in three years, and about ten per cent of those in the Latin School in four years.

The majority of the pupils who graduate from the grammar schools in less than six years are usually carried over the course arranged for two years in one year. The school regulations provide for this by the following rule: "The grammar schools shall be divided according to the degree of advancement of the pupils in their studies, each into six grades. But in each grade, except the highest, a separate division may be formed and special instruction given to such division, in order to enable the pupils composing it to complete the course of study in a shorter period than six years. An ungraded class may also be formed when, in the opinion of the Sub-Committee having charge of the school and the Superintendent, such a class would be for the interest of the school."

While a separate division for special instruction may be formed in each grade except the highest, the general practice has been to form it only in the lowest or two lowest grades. In two of our largest schools, the Webster and the Harvard, this plan of classification has been extended to the higher grades. Other pupils who graduate in less than six years usually accomplish this by omitting for the time being the subjects included in one

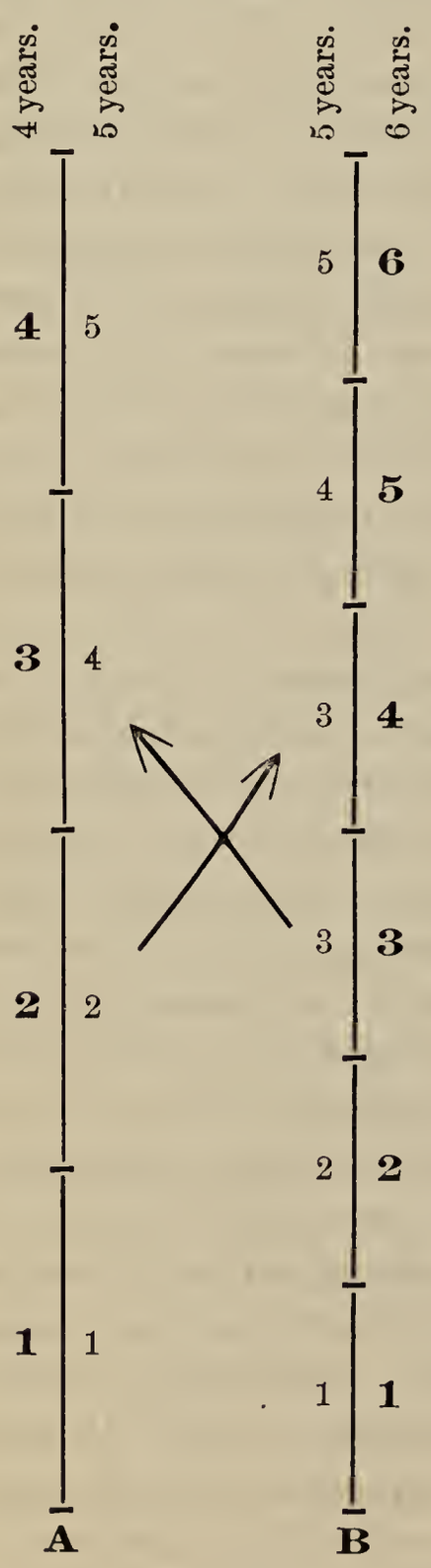
year's work, relying upon the instruction given in review lessons for a knowledge of these subjects. In the primary schools it is not expected that many pupils will complete the work in less than the regular three years.

The foregoing statements show the practical working of the classification in our schools so far as it relates to the pupils who pass regularly from grade to grade or advance more rapidly; but in all the schools many pupils fail of promotion at the end of the year, and are obliged to continue in the same grade two years in succession, doing the second year precisely the same work they did the first year. Thirty per cent of the pupils who graduated from the primary schools last June had been four years or more in completing the work, and eighteen per cent of the graduates of the grammar schools had been seven years or more.

The question now to be considered is, whether or not the present plan of classification and promotion is the best that can be adopted. Under it, as has been stated, pupils in the grammar schools who wish to complete the course of study in less than the full time are obliged to do two years' work in one, or omit the subjects taught in one grade, taking them up only in review. Would it not be better for such pupils, if the course were so arranged that no part of it shall be omitted, and no one year's subjects more hastily passed over than another?

This can be done by dividing the course of study in two ways: (1) into six sections; (2) into four sections, each section to represent a year's work. The accompanying diagram will make the plan more clear. Pupils promoted to the grammar schools would begin the first year's work together. After two or three months they would be divided into two divisions. One division would advance more rapidly than the other and during the year complete one-fourth of the whole course of study. The other division would complete one-sixth of the course. For convenience we will call these divisions A and B. At the beginning of the second year division A would be placed with division B of the third year. At the end of the year these divisions would be at the same point in the course of study, having completed (one division in two years and the other in three years) one-half of the course. These divisions would begin the next year's work

together; but division A would advance more rapidly than division B, and at the beginning of the fourth year it would be placed with division B of the sixth year. At the end of the year



both divisions would have completed the course of study without omitting any part of it, and without being obliged to do in any one year more than in any other, one division having completed the work in four years, and the other in six. Under this plan there are also two ways of completing the course in five years. Any pupil beginning in division A can at the end of two years, if for any cause it seems desirable, be transferred to division B; and then he would be three years in finishing the course, making five years in all. On the other hand, any pupil beginning in division B can at the end of three years, if he has shown himself able to advance more rapidly, be transferred to division A, and in this division finish the course in two years, making as before five years in all. In both cases these changes can be made without omitting or repeating any part of the course of study. At other times than at the middle of the course, pupils can also be transferred from a higher division to a lower, or from a lower to a higher, with fewer difficulties to overcome, and with greater probability of being benefited thereby, than under our present classification; the divisions in A being separated from those in B by only six months' work, while the present grades are a year apart.

One objection which will be made to this plan, especially by teachers, is that it will frequently be necessary to have two grades or divisions of unequal attainments in the same room. It

is by no means a settled question, however, whether the one-class plan is for the best interests of the pupils ; nor is this plan universally followed in the large cities of the country. According to the circular prepared by Dr. White, a majority of the cities have two or more classes in primary rooms, and about one-half of the cities have two classes in grammar rooms. It is true that in the grammar schools these classes or divisions are frequently of the same grade ; but they are taught separately in such branches as reading, arithmetic, geography, history, etc. In my own opinion, there are decided advantages in having two grades in a room when they are not separated in attainments by an interval of more than six months ; making it practicable to teach writing, drawing, music, and other exercises of a general character to all the pupils at the same time. The pupils in the lower grade are benefited not only by observing what is going on in the higher grade, but by being associated with those whom they look upon, in a measure at least, as superior ; and especially is this the case when it is understood that any pupil in the lower grade can by close application find his way into the higher. But a greater benefit is in the necessity of having a part of the time devoted to study. The practice now so common with the majority of teachers in elementary schools, of working with their pupils almost incessantly from the beginning of the session to its close, is not favorable to the success of these pupils when they take up high school studies and are obliged, under the changed circumstances of classification and recitation, to prepare their lessons "without the aid or stimulus of the ever-present teacher." It is also unfavorable to the intellectual growth of pupils who do not go beyond the grammar school. Without the habit of quiet study little will be undertaken or accomplished in the line of mental improvement after school days are over.

The proposed plan seems to me feasible, and I believe it can be successfully carried out, so that from fifteen to twenty per cent of the pupils will be able to complete the course of study in four years, from forty to fifty per cent in five years, and the remainder with only a few exceptions in six years. To do this, however, more individual instruction will be required. How shall this be best secured? Not, I believe, by reducing the number of pupils in a room, but by the appointment of a teacher

of special qualifications who shall have charge of no particular class, but whose time shall be divided among the pupils needing this instruction in all the classes. At first thought it would seem that an additional teacher in each school would increase the cost of instruction; and this would be the case were it not that by this means many pupils would be carried forward more rapidly than would otherwise be possible. After carefully considering this question, I have no hesitation in expressing the opinion that such a course in the end would not add a dollar to the expense of the schools.

We now come to the most important question connected with this or any other plan of classification and promotion, namely, how shall the fitness of pupils for work in any grade or division be determined? In deciding this question the methods adopted in other cities should be known. The circular referred to gives this information. It is as follows:

(1) Pupils are promoted in primary grades in thirty-six cities on the judgment or estimates of teachers, in fourteen cities on the results of written examinations (chiefly), and in twenty cities on the results of examinations and the judgment or estimates of teachers united. Some of these cities make the examination the principal factor, and others the judgment or estimates of teachers. The term "primary grades" includes in several returns only the first two grades or years, in others the first three grades, and in others the first four grades.

(2) Pupils are promoted in grammar grades in sixteen cities on the judgment or estimates of teachers, in twenty-one cities on the results of written examinations, and in thirty-three cities on the results of examinations and the judgment or estimates of teachers united.

(3) Pupils are promoted to high schools in fifteen cities without written examinations, in thirty-three cities on the results of written examinations (chiefly), and in twenty-two cities on the results of examinations and the judgment or estimates of teachers united. Two cities have no high school. Of the fifteen cities that promote without examinations two promote on grammar-school certificate or "diploma"; three (Chicago, St. Louis, and Springfield, Mass.) on the recommendation of grammar-school principals; and the others on class standing, expressing the judgment or estimates of teachers. Most of these cities provide a written examination for pupils not promoted on class standing, in case this is desired by parents; and in several cities all pupils not promoted on class standing are examined.

(4) Pupils are promoted in high schools in twelve cities on judgment or estimates of teachers or "class standing," in twenty-four cities on results of written examinations, and in thirty-two cities on a mixed basis

in which examination results and class standing are united. In several instances the returns show that class standing is determined by "daily marking."

In five cities, including New York and Brooklyn, written examinations for promotion purposes are used only in promoting pupils to the high school and in the high school; and in five cities pupils who reach a prescribed class standing in grammar grades are promoted to the high school without examination, the other pupils being examined.

The returns also show that in fourteen large cities pupils are promoted in all grades on the judgment or estimates of teachers, and in seventeen cities pupils are thus promoted in all grades below the high school. In thirteen cities pupils are promoted in all grades on the results of written examinations (chiefly); in sixteen cities the pupils are promoted in all the grades on examination results and the judgment of teachers combined, and in twenty-two cities these factors are united in all grades above the primary.

It appears that three methods are in use by which fitness for promotion is determined: (1) the judgment of teachers; (2) the results of written examinations; (3) the results of written examinations and the judgment of teachers united; and that somewhat less than one-third of all promotions is made by the first method, about one-third by the second, and the remainder by the third. In the schools of Cambridge, promotions in the first and second grades are made by the first method, and in the other grades by the second method with this understanding, that pupils falling below the required per cent may be promoted on the recommendation of the teacher. It may seem that this is the third method rather than the second, while in reality it is the adoption of the first and second methods, not combined but used separately, that is, one part of the pupils in the same grade are promoted on the results of written examinations, and the other part on the judgment of the teacher. The difference between the judgment of the teacher in the first method and in the third is, that in the first method it may be given with or without the aid of class records, but in the third method class records are essential. It is interesting to note the different ways in which the examination results and teachers' judgment are combined. From Dr. White's circular we learn that "in two cities examination results count one-fifth, and the class record or judgment of teachers four-fifths; in two other cities examination results count one-third, and the class record two-thirds; while in

another city examination results are valued at two-thirds, and the judgment of teachers at only one-third, and in ten cities each factor counts one-half."

In speaking of these combinations Dr. White remarks: "Persons who have had experience in promoting large classes of pupils, know how difficult it is to give due consideration to two separate records. It may be proper to add that it is not easy to discover the principle on which these diverse combinations of examination results and class standing are made, or the facts which determine the comparative value of these two factors. Moreover, if the estimates of teachers are trustworthy, there would seem to be no necessity for combining them with examination results, and, if the examination results are reliable, they certainly need not be discounted by uniting them with the estimates of teachers. If both factors are unreliable, how can a reliable result be secured by their union? This can only be true when the errors are in opposite directions; and why may they not be in the same direction? It is believed that this union is generally made not to determine the fitness of pupils for promotion, but to lessen the evils of promotion examinations."

The evils of promotion examinations are forcibly enumerated by Dr. White. Briefly stated, they are thus:

(1) In the very nature of things a coming examination largely determines the scope and character of prior teaching and study. Few teachers can face such a formal test of their efficiency, and feel free to teach according to their best judgment and power. Under this pressure teaching degenerates into the art of preparing pupils to pass examinations. Every study is scanned for examination "points," and the theory of probabilities is used to determine which of these will be presented. Effort is concentrated on these "probable" tests.

(2) The fact that the results of an examination will determine the promotion of pupils makes it necessary that the questions fall within the minimum requirements of the course, and be within the capability of the average, if not the weaker, pupils. Questions intended to broaden and improve the instruction inevitably result in the failure of pupils who may be well prepared to advance in the course. Such questions therefore cannot properly be given, and the examination is narrowing in its influence.

Another grooving influence has its source in the fact that it does not cover all the studies and disciplines of the course. This fact naturally results in an undue concentration of attention and efforts on the "percented" branches, to the neglect of other studies of equal, if not greater,

importance. This evil increases as the classes approach the examination. Attention centres more and more in those studies and parts of studies that "count"; and finally exercises that prepare pupils for the coming examination are found to crowd out those that rather look to right training and culture, and this result is not exceptional. Moreover, some of the best results of school lie beyond the reach of written tests, and the sacrifice of this best training is a serious evil. The written examination not only fails to test all moral and æsthetic results — vital results in school training — but it fairly tests only one of the three intellectual ends of teaching, knowledge, often verbal knowledge. It can adequately test neither mental power nor skill, since these are chiefly tested by action or doing; and hence it specially fails to be an adequate test of results in the school arts, as reading, language, music, etc. Of the fourfold results of education — virtue, wisdom, good manners, and learning — the last alone can be fairly tested in examinations.

(3) The influence on study is equally injurious to that on teaching. These examinations set up a low and alluring end for study — the attainment of examination marks — and they dissipate that natural desire for knowledge which is the source and inspiration of all true learning and of all real joy in study. They work for per cents, they cram for per cents, and too often, as it is feared, they cheat for per cents. The study of a school never rises higher than the tests by which promotion is determined, and it may fall far below them. The best study is done where there is the freest play of natural motives, and the poorest study where there is the most absorbing interest in examination marks.

(4) Another objection to the examination system is the fact that it often tempts pupils and sometimes teachers to dishonesty. The more that depends on an examination the stronger the desire to pass, and as a consequence the greater the temptation to use improper means. Nor is this evil as limited as is generally supposed. There are few large school buildings in which there are not one or more teachers too lax in discipline or too dull in sight and hearing to conduct an honest examination. Moreover, few school rooms are so seated that it is not easy for some pupil to see the work of another; and this is especially true in arithmetic and algebra, where a glance is sufficient to note a solution or process. There may be comparatively little cheating in well-ordered schools, but there are few cities in which all the schools are well-ordered.

(5) Another serious evil attending promotion examinations is the physical injury inflicted upon ambitious, sensitive, and over-nervous pupils — a class sufficiently numerous to demand careful consideration in school administration. This evil is greatest when promotion is made to depend chiefly on a final examination. Such an examination comes at the close of a term or year of effort looking to it, and hence at a time when the nervous energy of many pupils has been fully taxed, and in too

many instances, overtaxed. A few days of excessive study at such a time may so exhaust the brain as to make the added strain of the examination perilous. This liability to brain exhaustion may be increased by undue solicitude, if not actual worry; and this unfavorable nervous condition is often aggravated, if not occasioned, by the unwise stimulation and pressure of teachers and over-ambitious parents. Many a child is made to feel that a failure in an examination is not only a personal but a family disgrace.

To this nervous and mental unfitness for the examination ordeal must be added the severe tax of pen or pencil work not unfrequently for several hours daily and for several successive days—always an outrage when required of pupils under fifteen years of age, and always unwise whatever may be the age of those examined.

Moreover, experience shows that the more that depends on a final examination, the more injurious are the consequences. It is for this reason that the use of examination results, to compare schools and teachers, has proved so objectionable. It gives the teacher a special personal interest in the success of every pupil; and in the case of over-ambitious and nervous teachers, this occasions unwise appeals, stimulations, and criticisms,—in a word, undue pressure of various kinds; influences that affect most the pupils who do not need stimulation, but the opposite. Many a school has thus been wrought up to an examination excitement most injurious to both teachers and pupils. It is well nigh a crime for teachers to use a coming examination to stimulate and arouse pupils who are fully taxing their nervous energy in meeting regular school requirements.

Nor is this evil of over-pressure as occasional or exceptional as is sometimes claimed. The facts fully warrant the statement that not an absorbing and exciting promotion examination is conducted in any great public school without such injurious results; and this is specially true when the examination influence possesses the schools. It would open the eyes of some school officers, and not a few teachers, if they were to receive full reports of the calls of family physicians which attend their exhausting final examination; and certainly a few teachers, at least, know from personal experience what is meant by a general promotion examination at the close of a year of overtaxing labor.

(6) Another evil connected with promotion examinations is the waste of time and energy which they involve. A final examination in a great school or system of schools requires a week or more of precious time; and when the number of examinations held each year is increased, the amount of time thus wasted is increased, though perhaps not proportionately.

But this does not tell the whole story, since much time and energy are consumed in preparing for the examinations, that is, in exercises and efforts which are especially devoted to this one purpose. Much of the drill and rote work occasioned by these examinations is justified by no true end of teaching; on the contrary, it is subversive of true teaching.

Many plans have been devised for remedying the evils of the examination system. Among those mentioned by Dr. White are the following:

(1) The first of these reforms noted is the disuse of examination results as a means of determining the comparative standing of classes and the success of teachers. Few school reports now contain examination tables giving the percentages of correct answers credited the several classes or the different pupils in the same class. This is not only true, but many superintendents have ceased to prepare such tables, even for private inspection. This wise change in school administration has lessened, and often removed the bitter jealousies and rivalries between schools and teachers which once so intensified the pressure of examinations.

(2) Another reform is the increasing disuse of examination results as a means of comparing pupils. It was once common to arrange the names of pupils after an examination in the order of their percentages, and to post or announce the same, as a "reward to the diligent and a terror to the indolent." It was also common to use the coming examination as an incitement or spur to effort; and as a result of these practices, the strife for percentages was wide-spread and mischievous. The increasing disuse of these unwise practices is affording some relief from over-pressure, but this relief is not yet general.

(3) Another remedy for the over-pressure of the final examinations early adopted, was the holding of written examinations monthly or bi-monthly, with an examination at the close of the term or year. The object of this expedient was to give the pupils an assurance that their promotion had been largely determined by the prior tests, thus relieving their anxiety at the final examination. But the practical difficulty was to get pupils to rely on such an assurance, especially in the face of the teacher's earnest preparation for the final ordeal and the evident stress otherwise laid upon it. Moreover, it was found that frequent examinations, with their display of percentages as the end of study, had served "to whet the appetite" for high marks. It was also found that such frequent examinations not only consumed much time greatly needed for instruction, but that they placed a heavy burden of "drudge work" on teachers.

(4) Another expedient more recently tried is the omission of certain branches in the written examinations for promotion, but this has only served to increase the pressure on the test branches, and hence has afforded little if any relief. The expectation that the plan would result in freer and more rational instruction in the non-test branches may have been partly realized; but the attention of teachers and pupils is concentrated on the branches that "count," and this occasions the neglect of other important studies and exercises.

(5) Another means of relief adopted in several of the larger cities is the omission of stated uniform examinations, and the commitment

of all promotion examinations, if held, to the principals of the several schools or districts. It avoids the general suspension of the regular work of the schools. The principals are in close contact with the work of instruction, and know the attainments of the several classes. As a result, they are able to adapt their tests to the work actually done, and so to distribute them as greatly to lessen excitement, anxiety, and over-pressure.

(6) Another somewhat recent device is the excusing of all pupils from the final examination who have reached a prescribed average standing in the prior tests. While this affords relief in the final examination it does not lessen the pressure in the prior examinations; and, besides, whatever of relief may be afforded is experienced by the brighter and more capable pupils — the very pupils best prepared to take the examination. The pressure falls all the more heavily upon those whose prior success is not an assurance of easy victory.

Dr. White remarks that "these several expedients are remedies to cure the brood of ills born of the examination system"; and he adds: "Why not remove the cause of these ills, and thus obviate the necessity of their correction? Why not make the pupils' success in daily work the only factor in their promotion? This success should be reliably determined, and the only means of doing this, in the absence of examinations held for the purpose, is the teacher's judgment, recorded or otherwise, and supported, as it may usually be, by the judgment of the principal.

It is conceded at the outset that little reliance can be placed on the judgment or opinion of a teacher who can teach a class for a term or a year and not really know what is true of the fidelity and progress of the individual pupils therein. It is also conceded that even less reliance can be placed on the opinion of a teacher who, knowing the success of his pupils, has not the moral honesty to express a true judgment based on such knowledge.

But what is true of the intellectual and moral competency of teachers as a class? It may be stated, as a preliminary fact, that teachers as a class are as competent to determine the comparative success of their pupils as they are to teach, or to read and grade examination papers. There is no true teaching that does not test the attainments and progress of pupils as they advance in the course; and a teacher who does not know the fidelity and success of his pupils in daily work is not competent

to teach, and should be retired. Every intelligent teacher is ready at any time to render a verdict respecting the success of his pupils. The record keeps itself.

It seems unnecessary to assert the moral competency of teachers as a class, or to suggest the one obvious remedy in exceptional cases. A failure at this point is a failure that undermines all that is best in school work.

Moreover, in nearly all graded schools the teacher's work is under the inspection of the principal or superintendent, who knows, or ought to know, its character and the progress of the several classes.

The charge that teachers thus assisted and guided do not know the success of their pupils in daily work is a denial of their intellectual and moral competency; and the charge that principals do not know the character of the work of the teachers under their supervision calls in question their fitness for the positions which they occupy. This knowledge is one of the conclusive tests of competency. Nothing is gained in school administration by attempts to relieve teachers and principals from the necessity of proving themselves competent and trustworthy."

In 1881, I wrote in my annual report as follows: "In deciding the question of the promotion of scholars, too much importance should not be given to a single final examination. For several years, I have not favored a uniform examination of the classes throughout the city, believing that the broadest teaching would not be secured when comparison of results, as shown in percentages of correct answers, was possible. I think the principals of our schools, whose duty it is 'to assign each pupil to his class,' should spend more time with their lower classes, and make themselves personally acquainted with the capacities and attainments of all their pupils. The beneficial results of doing this would not end with the knowledge acquired. The pupils would be stimulated to greater exertion by feeling that the principal of the school, as well as their regular teacher, was watching their course with deep interest in their progress. Failures are oftener the result of indifference than of inability. Let pupils become interested in their studies, and results will take care of themselves. Teachers should never lose sight of the welfare of the whole school; at the same time, they should

not forget that each pupil has special claims upon their thought and attention."

After an added experience of ten years I would not change the above lines, except to state positively what perhaps is only implied, that I do not believe in written examinations the results of which are to determine, or be a factor in determining, the fitness of pupils for promotion. I still believe that the principals of the schools should make themselves personally acquainted with the capacities and attainments of all their pupils. Their stimulating presence should be felt in all the classes. It should be understood that, whenever a pupil shows by his work that he is able to do more work, he will either be carried forward in his studies and when qualified placed in a higher grade, or he will be allowed to join a class taught by the special teacher in some interesting subject outside of the regular course. It should also be understood by those who fail to do their work, that from time to time they will be called upon to recite to the principal, in order that he, as well as their regular teacher, may be able to judge of their fitness to remain in their class or to be promoted at the end of the year to a higher grade.

In the primary grade, the principal of each school has a class of her own to teach without an assistant. She would not have an opportunity, therefore, to acquaint herself with the attainments of the pupils in the other classes. To appoint an assistant to each principal would add greatly to the cost of instruction in these schools. A more economical way would be to appoint two or three teachers who shall hold the same relations to the teachers in the primary schools as the principals of the grammar schools hold to their assistants. It is believed that the salaries of these teachers will be more than offset by the reduced average cost of the education of a child in the primary grade. More than three hundred of the pupils who graduated from the primary schools last June had been four years or more in completing the course. Had even one-half of these been carried through in three years (the time allotted for doing the work) instead of four, the salaries of at least three teachers would have been saved; and there would have been a still greater saving, had the larger part of the remaining half been carried through in three and a half years.

I have now indicated ways and means by which, if they are adopted, many pupils will be able to complete the course of study for the primary and grammar schools in a shorter time than heretofore. I have considered the question of the classification and promotion of pupils without reference to what subjects shall be included in the course of study, as the two questions are not necessarily connected. The course, however, should be revised. Elementary natural history should be at once introduced into the lower grades, the instruction to be given by the regular teachers, but, for a few years at least, under the supervision of a special teacher. The study of geography should end with the eighth grade, and it should be taught in the fourth and fifth grades without the aid of a text-book, unless this be of a simple character in the form of a geographical reader. A new study should be given to the ninth grade. Too much time is now spent in reviewing the work of previous years. Let the restricting influence of the examination for admission to the high schools be removed, and there will be time for the study of elementary physics, or algebra, or geometry, or for a more extended course in English literature. Who can doubt that under the quickening and strengthening influence of a fresh study the pupils will be better prepared to take up the work in the high schools, than if they spent their time in continual reviews of the studies with which they are more or less familiar ?

It is not my purpose at this time to discuss the recommendation made by the New England Association of Colleges that French, German, and Latin be included as elective studies in the grammar school course. With the present ample accommodations for our high schools, and the crowded condition of our grammar and primary schools, it has seemed to me of the first importance to plan for the more rapid advancement of the pupils in the lower grades.

FRANCIS COGSWELL,
Superintendent of Public Schools.

[Further information in regard to the schools will be found in the separate report of the School Committee.]

In School Committee, Feb. 18, 1892.

Voted, That the report prepared and read by the Superintendent be adopted as the Annual Report of the School Committee for 1891, and that the Secretary be authorized to append the names of the members of the Committee thereto.

SANFORD B. HUBBARD,
Secretary.

Members of the School Committee for 1891.

ALPHEUS B. ALGER, *Chairman ex officio.*

*EDWARD H. HALL,
†WINFIELD S. CHAPLIN,
ELLEN A. GOODWIN,
‡WILLIAM T. PIPER,
§ALBERT B. HART,
PHEBE M. KENDALL,
JAMES L. PAINE,
ROBERT O. FULLER,
EDMUND WALSH,
ANNE CLARK STEWART,
EDWARD B. MALLEY,
ASA P. MORSE,
CAROLINE L. EDGERLY,
‖JOSEPH A. BALL,
¶CHARLES F. WYMAN,
WILLIAM A. START,
ALBERT M. BARNES,
†GEORGE A. ALLISON,
§GEORGE P. JOHNSON.

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*Resigned February 19.
†Resigned September 17.
‡Elected March 10.
§Elected October 6.
‖Resigned May 21.
¶Elected June 2.

APPENDIX.

APPENDIX.

ORDINANCES.

PASSED IN 1891.

An Ordinance in Amendment to an Ordinance in Relation to Streets.

Be it ordained by the City Council of the City of Cambridge, as follows: —

Section 39 of Chapter 36 of the Revised Ordinances of 1889 is hereby amended in the sixth line by striking out the words "April and October," and inserting in place thereof the words, "May and November."

[*Adopted January* 27, 1891.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Be it ordained by the City Council of the City of Cambridge, as follows: —

Section 13 of Chapter 42 of the Revised Ordinances of 1889 is hereby amended in the tenth line by striking out the words "equal to three" and inserting in place thereof the words "not less than three and one-half."

As amended the last sentence of this section will stand as follows:

"The Treasurer shall annually on or before the thirtieth day of November pay over to the trustees of the sinking funds, provided in the first act named in the third section of this chapter, a sum not less than three and one-half per cent. of the par value of the then outstanding water bonds."

[*Adopted February* 24, 1891.]

An Ordinance in Relation to the Rates Charged for the Use of Water.

Be it ordained by the City Council of the City of Cambridge, as follows: —

For the year beginning on the first day of May, 1891, a discount of ten per cent. from the existing rates for water shall be allowed to all consumers except such as are supplied through meters.

[*Adopted March* 10, 1891.]

An Ordinance in Amendment of an Ordinance in Relation to Assessors and Taxes.

Be it ordained by the City Council of the City of Cambridge, as follows: —

Chapter 4 of the Revised Ordinances of 1889 is hereby amended in Section 7 by striking out the words, "Whoever pays his taxes on or before the tenth day of October shall be entitled to a discount of three per cent., and." Also in Section 8, by striking out the words, "first day of November," and inserting in place thereof the words, "tenth day of October."

The Sections before mentioned are hereby transposed, so that Section 8 shall be numbered Section 7, and Section 7 shall be numbered Section 8.

As amended, these Sections will read as follows:

SECTION 7. Upon all taxes remaining unpaid upon the tenth day of October, interest shall be charged at the rate of six per cent. per annum.

SECT. 8. On the first day of November, the treasurer shall issue his summons to all delinquents, that, if their taxes are not paid within ten days from date thereof, with twenty cents for said summons, he will then proceed to collect the same according to law; and he shall give notice by attaching this section to all tax-bills.

[*Adopted March* 10, 1891.]

An Ordinance in Amendment of an Ordinance for the Protection of Police Signal Boxes.

Be it ordained by the City Council of the City of Cambridge, as follows: —

An ordinance entitled "An Ordinance for the Protection of Police Signal Boxes," approved December 23, 1890, is hereby amended by inserting after the word "department" the words "or of the department of the Inspector of Wires," so that the ordinance as amended will read as follows:

Whoever, not being a member of the Police Department, or of the department of the Inspector of Wires, or authorized by such member, shall open, or attempt to open, any police signal box, or whoever shall interfere, tamper or meddle with, break, cut, injure or deface, any such box, or wire joined to the same, or the post or other structure to which it may be fixed; and whoever shall post any bill or placard upon such signal box, post or structure, shall be liable to penalty of not less than five nor more than twenty dollars for each offence.

[*Adopted April* 21, 1891.]

An Ordinance in Amendment of an Ordinance in Relation to Salaries.

Be it ordained by the City Council of the City of Cambridge, as follows: —

Section 1 of Chapter 29 of the Revised Ordinances of 1889 is hereby amended by striking out in the 16th and 17th lines the following words and figures, viz: "Sergeants of Police detailed

as inspectors when on that duty, per day, $3.25," and inserting in place thereof the following:

Chief Inspector of Police,	$1,248 00
Inspector of Police, per day,	3 25

[*Adopted April* 21, 1891.]

An Ordinance in Amendment of an Ordinance Relating to Electric Wires and Establishing the Office, Powers and Duties of Inspector of Wires.

Be it ordained by the City Council of the City of Cambridge, as follows: —

An Ordinance entitled an Ordinance relating to Electric Wires, and establishing the office, powers and duties of Inspector of Wires, approved July 9, 1890, and amended October 10, 1890, is hereby further amended by inserting after Section 10 of said ordinance, the following new sections, viz:

SECT. 11. The Inspector of Wires shall, by virtue of his office, be the superintendent of the fire-alarm telegraph, the police signal system and all other electric wires and wire systems now or hereafter owned by the city. He shall have the care and management of the wires, apparatus and machinery and other property connected therewith; and shall keep the same at all times in good working order, and shall have access to all rooms and places necessary for these purposes. All additions to said systems and all new electric wires and appliances erected by the city, or for its use, shall be erected under his supervision, and to his satisfaction.

SECT. 12. Subject to the approval of the committee on finance, he shall appoint an assistant superintendent, and shall employ such other assistants as may be required. They may, with the approval of said committee, be removed by him at any time, but they shall continue in service until such removal, or until their offices are otherwise vacated.

The Section heretofore numbered as Section 11 shall be numbered Section 13.

[*Adopted April* 21, 1891.]

An Ordinance in Amendment of an Ordinance in Relation to Fire Department.

Be it ordained by the City Council of the City of Cambridge, as follows: —

Chapter 16, of the Revised Ordinances of 1889 is hereby amended in the following sections:

SECTION 1. By adding after the words "assistant engineers" in the second line, the words "who shall be styled call district chiefs.

SECT. 2. By striking out the words "assistant engineers," wherever it occurs, and inserting in place thereof the words "call district chiefs."

Also by striking out the last sentence.

SECT. 3. By striking out the words "assistant engineers," wherever they occur, and inserting in place thereof the words "call district chiefs."

SECT. 4. By striking out the entire section and substituting therefor the following redraft, viz: "The chief engineer shall be the executive officer of the department, and shall engage in no other business or occupation. The call district chiefs shall report their absences from fires in their respective districts, with the reasons therefor, to the chief engineer, who shall keep a record thereof and of his own absences from fires. They shall also report to him whenever they intend to leave the city."

SECT. 5. By striking out the word "engineers," after the word "the" in the first line, and inserting the words "call district chiefs."

SECT. 6. By inserting in the 8th line after the words "steam fire engine," the word "houses"; also by inserting in the 15th line, before the word "committee," the words "joint standing"; also by striking out, in lines 31, 32 and 33, the words "provided that no alteration shall be made in any building except by order, and under the direction of the committee on public property."

SECT. 7. By striking out the entire section and inserting the following new draft: "In case of the absence of the chief engineer, a call district chief, designated by him, shall execute the duties of his office with full powers, except that each call district chief shall have full control within his district during a fire."

SECT. 8. To remain unchanged.

SECT. 9. By striking out, in the 5th line, the words "board of engineers" and inserting in place thereof the words "standing committee on fire department," also by striking out the words "or an assistant," in 10th line.

Also by striking out the words "foreman" and "assistant foreman," wherever these words occur, and inserting in place thereof the words "captain" and "lieutenant."

SECT. 10. By striking out the word "sole," in the third line, and inserting in place thereof the word "immediate."

By striking out, in the second line, the words "board of engineers" and inserting in place thereof the words "chief engineer." By striking out the last sentence, and inserting in place thereof the words, "He shall be accountable for the discipline of his company and report to the chief engineer any breach of the same."

SECT. 11. To remain unchanged.

SECT. 12. By striking out, in the 11th and 12th lines, the words "or an assistant" and also by striking out the last sentence. By striking out the words "foreman" and "assistant foreman," whenever the same occur, and inserting in place thereof the words "captain" and "lieutenant."

By striking out the words "board of engineers" and inserting the words "chief engineer."

SECT. 13. By striking out, in the first line, the word "foreman" and substituting the word "captain"; also, in the 4th line, the words "or an assistant"; also, in 5th line, the words "board of engineers," and inserting in place thereof the words "chief engineer." By striking out the last sentence and inserting the following: "He shall be accountable for the discipline of his company and report to the chief engineer any breach of the same."

SECT. 14. By inserting in 6th line, after the word "vacated," the following: "Provided, however, that the chief engineer, or any call district chief, may suspend any member of a company for such cause as he may deem sufficient, and the call district chiefs shall each immediately report any case of suspension by him to the chief engineer, and the chief engineer shall, as soon as possible, report any case of suspension to the standing

committee on fire department. In case the standing committee on fire department shall find the charges sustained, upon which any member may have been suspended, said committee shall report such finding to the Board of Aldermen, who may thereupon remove such member from the department.

SECT. 15. By striking out the words "board of engineers," in the 8th line, and inserting in place thereof the words "chief engineer"; also, by striking out the word "foreman," wherever it occurs, and substituting therefor the word "captain."

SECT. 16. To remain unchanged.

SECT. 17. By striking out the entire section and inserting the following: "The chief engineer shall have power to transfer members from one company to another, whenever the interests of the department may require it, subject to the approval of the standing committee on fire department."

SECT. 18. By striking out the entire section, and inserting the following: "In all cases of transfer, suspension or removal of the members of the fire department by the chief engineer, the name of the person transferred, suspended or removed, with a statement of the reasons therefor, shall be entered by him on his records, and a copy of the same shall be transmitted to the standing committee on fire department at its next meeting."

SECT. 19. By striking out this section.

SECTS. 20 and 21. To become sections 19 and 20. In Section 19 (new number) by inserting before the word "engineer" the words "the chief," and after the word "engineer," by inserting the words "or the call district chief in charge."

SECT. 22. By striking out, in the 7th line, the words "board of engineers" and inserting in place thereof the words "chief engineer." By striking out, also, in 10th line, all after the word "cents," and also the remainder of the section.

SECT. 23. To remain unchanged.

SECT. 24. By substituting the words "chief engineer" for the word "engineers."

SECT. 25. As amended July 29, 1890. By striking out the words "board of engineers," and inserting in place thereof the words "standing committee on fire department."

SECT. 26. By striking out the words "or one of the assistant engineers."

SECT. 27. (As amended July 29, 1890.) By striking out the words "board of engineers," and inserting in place thereof the words "chief engineer and call district chiefs."

(SECTS. 22 to 27, inclusive, to be re-numbered as 21 to 26, inclusive).

SECT. 28. To be stricken out.

SECT. 29. To be numbered as section 27, the same to be amended by striking out in 1st line the words "board of engineers," and inserting in place thereof the words "standing committee on fire department," also, in 2d line after word "same" by inserting the words "and shall make such rules and regulations for the better government, discipline and good order of the department, and for the extinguishment of fires, as they may deem expedient, the same not being repugnant to the laws of the Commonwealth, or to any ordinance of the city, but subject to the approval of the mayor and aldermen."

SECT. 30. To be stricken out.

SECT. 31. To become section 28, and to be amended in the 2d line after the word "department" by adding the words "or the department of the inspector of wires."

SECT. 32. To become section 29.

As amended this ordinance will read as follows:

CHAPTER 16.

FIRE DEPARTMENT.

SECTION 1. The fire department shall consist of a chief engineer, three engineers, who shall be styled call district chiefs, and of as many engine-men, hose-men, hook and-ladder men, to be divided into companies, as the number of engines and other fire apparatus belonging to the city shall require.

SECT. 2. The chief engineer and call district chiefs shall hold their respective offices until removed by the city council, or until their offices are otherwise vacated. The city council, may, by concurrent vote, at any time remove from office the chief engineer or any call district chief. In the case of a vacancy in the offices of the chief engineer and the call district chiefs, such

vacancy shall, within thirty days after it is created, be filled by appointment by the mayor, with the approval of the board of aldermen and the concurrence of the common council, or in default thereof, afterward by concurrent vote of the city council, either branch acting first.

SECT. 3. The chief and the call district chiefs, on their appointment, shall each receive a warrant, in the words following: "This certifies that —— ——— is appointed chief engineer (or call district chief) of the fire department of the City of Cambridge, and is entitled to all the immunities, and invested with all the powers, belonging to said office. Given under my hand, this —— day of ——, A. D. 18—. ——— *Mayor.* ———, *City Clerk.*"

SECT. 4. The chief engineer shall be the executive officer of the department, and shall engage in no other business or occupation. The call district chiefs shall report their absences from fires in their respective districts, with the reasons therefor, to the chief engineer, who shall keep a record thereof, and of his own absences from fires. They shall also report to him whenever they intend to leave the city.

SECT. 5. The call district chiefs shall, whenever a fire breaks out in their respective districts, immediately repair to the fire, wearing the badge of their office; shall require and compel assistance from all persons in extinguishing the fire, removing furniture, goods, or other merchandise from any building on fire or in danger thereof, and in pulling down any building if occasion require; and shall suppress all tumults and disorders.

SECT. 6. The chief engineer shall have the sole command at fires over all persons, whether members of the fire department or not. He shall direct all proper measures for extinguishing fires, protecting property, preserving order, and enforcing the laws, ordinances, and regulations respecting fires; and examine into the condition of the fire engines, and all other fire apparatus and of the fire-engine houses and other houses belonging to the city, and used for the department, and by the companies thereto attached, as often as once a week, and whenever directed so to do by the city council, or by the joint standing committee on the fire department. He shall certify all bills except those author-

ized by special order of the city council, the joint standing committee on the fire department, or the committee on fuel, and submit the same monthly to the joint standing committee on the fire department. He shall report annually, in the month of December, to the city council, a statement of the receipts and expenditures of his department, the condition of the fire-engines and all other fire apparatus, a schedule of the property in his charge, the names of the officers and members, and such other facts in relation to his department as he may deem expedient. Whenever the fire-engines or other fire apparatus require repairs, he shall cause the same to be made, under direction of the last-named committee; and, as far as practicable, shall examine into the location and condition of fire apparatus belonging to corporations or private individuals within the limits of the city. He shall also, under the direction of the last-named committee, require the permanent men, when not otherwise engaged, to perform such other duties and do such other work, as, in his judgment or that of the committee, may be deemed proper. He shall also receive and transmit to the city council all returns of officers, members, and fire apparatus, made by the respective companies as hereinafter prescribed, and all other communications relating to the affairs of the fire department; shall keep fair and exact rolls of the respective companies, specifying the time of admission and discharge, and the age of each member; and shall report annually, or oftener if directed, all accidents by fire which may happen within the city, with the cause thereof, the number and description of the buildings destroyed or injured, and the amount of loss and insurance on the same, together with the names of the owners or occupants.

SECT. 7. In case of the absence of the chief engineer, a call district chief, designated by him, shall execute the duties of his office with full powers, except that the call district chief shall have full control within his district during a fire.

SECT. 8. No person who is not a legal voter in the city, or whose daily occupation is carried on outside of the city, shall be appointed or continue an officer or member of the fire department.

SECT. 9. Each steam fire-engine company appointed by the mayor and aldermen shall consist of a captain, lieutenant, en-

gineman, fireman, driver of the steam fire-engine, driver of the hose carriage and six hosemen. The captain and lieutenant shall be nominated by the chief engineer for appointment by the mayor and aldermen. The engmemen and the two drivers shall be constantly employed, and shall at all times be in or about the engine-house, except when unavoidably absent, or excused from duty by the chief engineer. There shall also be appointed one engineman at large, who shall be employed in place of any engineman or driver who may be excused from duty.

The captain of each steam fire-engine company shall have charge and direction of his company at fires.

The lieutenant of each steam fire-engine company shall assist the captain in the discharge of his duties, and act as clerk of the company.

Each chemical engine company appointed by the mayor and aldermen shall consist of an engineman, driver and hoseman. The engineman of each chemical engine company shall have charge and direction of his company at fires.

SECT. 10. The engineman of each fire-engine company shall, under the direction of the chief engineer, have the immediate care of the engine-house and all the property therein belonging to the city. He shall make requisitions on the chief engineer for all supplies required for his company. He shall be held personally responsible for the care and condition of the fire-engine, and have it at all times ready for immediate use. He shall be accountable for the discipline of his company and report to the chief engineer any breach of the same.

SECT. 11. The driver of each fire-engine, and the driver of the hose-carriage, shall drive and have charge of the horses of the fire-engine and hose-carriage, respectively, and have the same at all times ready for immediate use, and the stable kept neat and clean. They shall also assist the engineman in keeping the house and apparatus clean, and they and the engineman shall perform such other duty as may be required of them by the chief engineer.

SECT. 12. Each hook-and-ladder company appointed by the mayor and aldermen shall consist of a captain, lieutenant, driver, and eleven laddermen. The captain and lieutenant shall

be nominated by the chief engineer for appointment by the mayor and aldermen. The captain shall, at all fires, have charge and direction of his company. The lieutenant shall assist the captain in the discharge of his duties, and also act as clerk of the company. The driver shall be constantly employed, and at all times be in or about the hook-and-ladder house, except when unavoidably absent, or excused from duty by the chief engineer. He shall drive and have charge of the horses, shall keep the stable neat and clean, and perform such other duty as may be required of him by the chief engineer.

SECT. 13. The captain of each hook-and-ladder company shall be constantly employed, and at all times be in and about the hook-and-ladder house, except when unavoidably absent or excused from duty by the chief engineer. He shall, under the direction of the chief engineer, have the sole care of the hook-and-ladder house and all the property therein belonging to the city, and shall be held personally responsible for the care and condition of the same. He shall be accountable for the discipline of his company and report to the chief engineer any breach of the same.

SECT. 14. Whenever any vacancy occurs in any fire-engine, hose, or hook-and-ladder company, the vacancy shall be filled by appointment by the mayor and aldermen. The members of such companies shall continue in service until removed by the mayor and aldermen, or until their positions are otherwise vacated; *provided*, however that the chief engineer or any call district chief may suspend any member of a company for such cause as he may deem sufficient, and the call district chiefs shall each immediately report any case of suspension by him to the chief engineer, and the chief engineer shall, as soon as possible, report any case of suspension to the standing committee on fire department. In case the standing committee on fire department shall find the charges sustained, upon which any member may have been suspended, said committee shall report such finding to the board of aldermen, who may thereupon remove such member from the department.

SECT. 15. The captains shall keep, or cause to be kept by the clerks of their respective companies, fair and exact rolls, specifying the time of admission, discharge, and age of each

member, and accounts of all city property intrusted to the care of the several members, and of all cases of absence and tardiness, in a book provided for that purpose by the city, which rolls or record-books are always to be subject to the order of the chief engineer and the mayor and aldermen. They shall also make, or cause to be made, to the chief engineer, true and accurate returns of all the members, with their ages, and the apparatus intrusted to their care, whenever called upon so to do.

SECT. 16. The officers and members of the several companies, whenever a fire breaks out in the city, shall repair forthwith to their respective fire-engines, hose, and hook-and-ladder carriages, and obey the directions of the chief or the call district chief in charge, and in the absence of all the call district chiefs, the directions of their respective captains.

SECT. 17. The chief engineer shall have power to transfer members from one company to another, whenever the interests of the department may require it, subject to the approval of the standing committee on fire department.

SECT. 18. In all cases of transfer, suspension or removal of the members of the fire department by the chief engineer, the name of the person transferred, suspended or removed, with a statement of the reasons therefor, shall be entered by him on his records, and a copy of the same shall be transmitted to the standing committee on fire department at its next meeting.

SECT. 19. The captain of each steam fire-engine and hook-and-ladder company, and the engineman of each chemical engine company, immediately on his arrival at any fire, shall report to the chief engineer, or the call district chief in charge and shall remain by his company, and the apparatus of which he has charge, during the fire, preserve order, direct their operations, and protect them from being interrupted in the discharge of their duty.

SECT. 20. In the absence of the captain of any company, the officer next in rank, who is present, shall take the command, and have all the powers and responsibilities of captain.

SECT. 21. No company shall be allowed to impose fines upon its members; but it shall be the duty of the clerk of each company to enter in the roll-book provided by the city, all

absences of each officer or member of said company from all fires and alarms of fire, and from the monthly and special meetings authorized by the chief engineer, and to make a monthly return of the same to the chief engineer. And for every such absence, except in case of sickness, there shall be deducted from the pay of such officer or member the sum of fifty cents.

SECT. 22. The permanent men of the department shall be required to furnish themselves with a suitable uniform, the same to consist of a cap, overcoat, undercoat, vest and pantaloons, and to be of such materials, quality of goods and pattern, as the mayor and aldermen may prescribe.

SECT. 23. Every member of the department shall wear, at all fires, such badge as the chief engineer shall prescribe; and no person without such badge, excepting members of the city council, shall enter within the lines formed at any fire.

SECT. 24. The standing committee on fire department shall make such rules and regulations as in their judgment shall, as far as possible, prevent refreshments being furnished at fires to any persons except members of the fire department. No intoxicating liquors of any kind shall be carried into any of the houses used by the fire department; nor shall any gambling be permitted therein.

SECT. 25. No company shall leave the city in case of fire in the neighboring towns, except by the consent of the chief engineer; and no company shall leave the city on an excursion, unless by the permission of the mayor and aldermen, and such permission shall in no case be deemed to include the apparatus.

SECT. 26. The chief engineer and call district chiefs shall thoroughly examine into all places where shavings and other combustible materials are deposited or collected, and cause the same to be removed by and at the expense of the owners or other occupants of any such places, whenever the security of the city against fire requires it.

SECT. 27. The standing committee on fire department shall make rules for giving alarms of fire by telegraph, and may alter the same; and they shall make such rules and regulations for the better government, discipline, and good order of the department, and for the extinguishing of fires, as they may deem

expedient, the same not being repugnant to the laws of this commonwealth, or to any ordinance of the city, but subject to the approval of the mayor and aldermen; such rules shall be placed on file in the office of the chief engineer.

SECT. 28. No person, except a member of the fire or police department, or the department of the inspector of wires, shall open any of the signal-boxes connected with the fire-alarm telegraph, except in case of fire; no person shall interfere in any way with such boxes by breaking, cutting, injuring or defacing the same; or tamper or meddle with said boxes, or any part thereof, nor shall any person interfere with the poles by which the wires of the fire-alarm telegraph are supported, by breaking, cutting, injuring or defacing the same by the posting of placards or bills upon them, or in any other manner.

SECT. 29. Whoever violates any provision of the preceding section shall be liable to a penalty of not less than five dollars, nor more than twenty dollars, for each offence.

[*Adopted May* 19, 1891.]

An Ordinance in Amendment of an Ordinance in Relation to Inspection and Construction of Buildings.

Be it ordained by the City Council of the City of Cambridge, as follows: —

Chapter 7 of the Revised Ordinances of 1889 is hereby amended in the Sections following, viz:

SECT. 17. In first and second lines by striking out the words "not otherwise described herein," and in the eleventh line by striking out the word "ten" and inserting the word "three." Also by adding at the end of the section the words "and wooden structures for manufacturing and business purposes, not exceeding three stories in height, may be built on foundations before described, upon a special permit being first obtained from the Inspector of Buildings."

SECT. 20. In fourth and fifth lines by striking out the words "extend in a range or." In the eleventh line by striking out the words "range or."

SECT. 21. In eighth line by striking out all after the word "feet." including the remainder of the section.

SECT. 22. By striking out the word "thirty-five" wherever it occurs, and inserting the word "forty." As amended these sections will read as follows:

SECT. 17. Wooden structures for dwellings, not exceeding two stories in height, may be built on stone or brick foundations on piers or posts, each set on a hard bottom, but to a depth of not less than four feet below the surface of the ground, or on piles well driven to a hard bottom, said piers, posts or piles to be spaced not more than eight feet on centres; or on mud-sills, resting on cross pieces of plank three inches or more in thickness, not less than four feet long and ten inches wide, placed at intervals of not more than three feet on centres; and wooden structures for manufacturing or business purposes, not exceeding three stories in height, may be built on foundations before described, upon a special permit being first obtained from the Inspector of Buildings.

SECT. 20. No buildings, except manufactories, railway stations, stables, churches, school-houses, and halls for public assemblies, shall hereafter be erected, and no existing building shall hereafter be altered or added to, so that they shall have a frontage of more than fifty feet without at least one brick party wall, not less than eight inches thick for its entire height, and extending from the bottom of the cellar, or from a foundation wall constructed as provided in section fourteen, to the under side of the roof boarding, which shall be laid and be imbedded in mortar upon said wall, and no existing building, having a frontage of more than fifty feet, shall be converted to a use not excepted by this section, without at least one brick party wall, constructed as described in this section; provided, however, that any single dwelling-house intended for one family, may be extended more than fifty feet in one direction without such party wall.

SECT. 21. No wooden building to be used for the purposes of a dwelling-house, shall be built at a less distance than two feet from any other wooden building; and no wooden building heretofore erected and now used for other purposes than a dwelling-house, any wall or portion of a wall of which is within less than two feet of any other wooden building, shall be converted into or used for a dwelling-house without the intervention of a brick wall, where the united width of the two buildings exceeds forty feet.

SECT. 22. Party walls of brick, in all buildings other than dwelling-houses, hereafter to be erected in this city with external walls not exceeding forty feet in height, shall be not less than sixteen inches thick to the top of the second floor and not less than twelve inches for the remaining height; and, in buildings having external walls exceeding forty feet in height, said party walls shall be not less than twenty inches thick to the top of the second floor, not less than sixteen inches thick to the top of the third floor, and not less than twelve inches thick for the remaining height.

[*Adopted June* 9, 1891.]

An Ordinance in Amendment of an Ordinance in Relation to Streets.

Be it ordained by the City Council of the City of Cambridge, as follows: —

Section 51 of Chapter 36 of the Revised Ordinances of 1889 is hereby amended as follows: —

By adding the words "and no person shall permit a leader or conductor from the roof of a building owned by him to be so placed or maintained as to direct a volume of water upon or across the surface of the sidewalk."

The Section as amended will read as follows: —

SECT. 51. No person shall insert a sign in a sidewalk without the permission of the Mayor and Aldermen, or of some person thereto authorized by them; and no person shall permit a leader or conductor from the roof of a building owned by him to be so placed or maintained as to direct a volume of water upon or across the surface of the sidewalk.

[*Adopted September* 29, 1891.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Be it ordained by the City Council of the City of Cambridge, as follows: —

Section 7, of Chapter 42, of the Revised Ordinances of 1889, is hereby amended in the third line, after the word, "hydrants,"

is heaeby amended in the third line, after the word "hydrants," by inserting the words "stand-pipes and drinking fountains." Also in the fourth line, after the word "hydrants," by inserting the words "stand-pipes and drinking fountains."

As amended this section will read as follows: —

SECT. 7. The board shall have full power to make all necessary repairs, extensions, or improvements on said works, and to provide new supply-pipes; all hydrants, stand-pipes and drinking fountains, established by the city, shall be constructed, and all repairs upon such hydrants, stand-pipes and drinking fountains made, and the streets, if broken up, again put in good order, to the satisfaction of the superintendent of streets, by and under the direction of the water board. The board shall have no power to expend any money, or to incur any debt, beyond the amount of appropriations made by the city council

[*Adopted December* 22, 1891.]

An Ordinance in Amendment of an Ordinance in Relation to Sewers.

Be it ordained by the City Council of the City of Cambridge, as follows: —

Section 2, of Chapter 33, of the Revised Ordinances of 1889, is hereby amended by adding at the end thereof the following:

Provided, That whenever any sewer is to be constructed, or any water pipe to be laid in any street or way, the City Engineer and Superintendent of Water Works shall consult with each other in regard to the location of any existing pipes.

As amended this section will read as follows:

SECT. 2. Whenever any street is opened for the laying of pipes for water, gas or other purposes, or for the prosecution of any works of construction, such laying of pipes and the work connected therewith, or such work of construction, shall be so executed as not to obstruct, in any way, the course, capacity, or construction of a common sewer, and whenever pipes for any purpose, or any work of construction, are found to exist at such a depth or in such location as to interfere with any existing sewer, or with the building of any common sewer of the required size, and at the proper depth and grades,— the department, cor-

poration or person, maintaining the same, shall, upon notice thereof, at once remove, change, or alter said pipe or pipes, or other works, in such a manner as the city engineer may direct. If such department, corporation, or person, neglects to comply immediately with the terms of such notification, the city engineer may make such removal, change or alteration, and the cost thereof shall be paid by such department, corporation or person.

Provided, That whenever any sewer is to be constructed, or any water pipe to be laid, in any street or way, the city engineer and superintendent of water works shall consult with each other in regard to the location of any existing pipes.

[*Adopted December* 22, 1891.]

An Ordinance Establishing the Salary of the Mayor.

Be it ordained by the City Council of the City of Cambridge, as follows: —

On and after the beginning of the Municipal Year, 1892, the salary of the mayor shall be at the rate of Thirty-five Hundred Dollars a Year.

[*Adopted December* 22, 1891.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Be it ordained by the City Council of the City of Cambridge, as follows: —

Chapter 42 of the Revised Ordinances of 1889 is hereby amended by striking out Section 23 and inserting in place thereof the following:

SECTION 23. The following rates shall be charged annually for the use of the water, namely:

DWELLING-HOUSES.

	Per Year.
Occupied by one family, for the first faucet, ...	$4 50
For each additional faucet, to be used by the same family, ...	2 00
Each wash basin, ...	2 00
Each set wash tub, with faucet, ...	2 00

When a house is occupied by more than one family and less than four —one faucet only being used by all, for each family, ... 3 50
When a house is occupied by four or more families. and but one faucet in use by all, for each family, ... 3 00
When a house is occupied by more than one family, the highest rates will be charged for each family having the water carried into their part of the house
For the first bath tub, ... 5 00
When used by more than one family, for each family, ... 3 50
For each additional bath tub, ... 3 00
For the first water closet (self-regulating), ... 4 00
When used by more than one family, for each family, ... 3 00
For each additional water closet (self-regulating), ... 2 00
For each water closet, not self-regulating, ... 10 00
When used by more than one famlly, for each family, ... 8 00
Each slop closet, ... 3 00
When two faucets are used, one for hot and one for cold water, both emptying into one vessel, but one charge will be made for both, and the same rule applies to boarding-houses.
Provided, That in no case shall the charge for the use of water by a private family, exclusive of water closet not self-regulating, hose and stable, be more than 16 00
And including stable for not more than four animals, than 23 00
And including use of hose for stable for not more than four animals, and for garden not exceeding five thousand feet, ... 28 00

BOARDING-HOUSES.

For the first faucet, ... $9 00
Each additional faucet, ... 3 00
For the first water closet (self-regulating), ... 9 00
Each additional water closet (self-regulating), ... 3 00
For each water closet, not self-regulating, ... 15 00
Each slop closet, ... 4 00
Bath tub, ... 9 00

STORES, ETC.

For each tenement occupied as a store, warehouse or office, . . . $3 50
Where two or more such tenements are supplied from the same faucet, each, ... 2 50
For markets, saloons, workshops, or for purposes not included in any other classification, and not requiring more than an ordinary supply of water taken from one faucet, from . . . . . $5 50 to 25 00
For the first self-regulating water closet, or urinal used by the occupants of one tenement only, ... 4 00
When used by occupant of more than one tenement, for each, . . . 3 00
For water closet, not self-regulating, for single tenement, ... 10 00
Each slop closet, ... 3 00
For water closet, not self-regulating, used by occupant of more than one tenement, for each, ... 6 00
For each additional fixture one-half of the above charges shall be added.

PRIVATE STABLES.

For first horse	$4 00
Each additional horse	2 00
Each cow	2 00

LIVERY, CLUB AND BOARDING STABLES.

For not exceeding five horses, the same as private stables.	
Each additional horse	$2 00

CAR AND OMNIBUS STABLES.

For not exceeding five horses, the same as private stables.	
Each additional horse	$2 00

TRUCK AND CART STABLES.

For each horse, if two or more	$2 00
The above includes water for washing carriages, omnibuses and cars, without hose.	
No stable less than	4 00
Where hose is used in any stable, an addition will be made to the above charges, as follows:	
For the first horse	5 00
For each additional horse	50

HOSE.

For washing windows and other similar uses, including watering gardens of less than 5,000 feet	$6 00
For above purposes and for private stable	10 00
For other cases arrangements can be made with the Water Board.	

HOTELS.

For each bed for boarders and lodgers	$3 50
Or special arrangements may be made with the Water Board.	

BATHS.

For public bath, and for each bath in any hotel	$10 00
Water closets in public bath houses	10 00

STEAM ENGINES.

For each engine, working not over twelve hours a day, for each horse-power	$6 00

The board shall have power to ascertain by meter the quantity used in any case, and a meter shall be applied whenever in the judgment of the board it is expedient. The charge for metered water other than for manufacturing purposes shall be at the rate of two cents for each one hundred gallons. (The charge for metered water for manufacturing purposes shall be at the rate of one and one-half cents for each one hundred gallons.) When the water used by any one taker shall amount to more than five million gallons in any one year, commencing with the

first day of July, then the charge shall be at the rate of one cent for each one hundred gallons of the excess over that quantity. In no case, however, shall the minimum charge for any metered premises be less than ten dollars per annum.

All bills for water furnished by meters shall be payable quarterly at the office of the city treasurer; and if the same be not paid within twenty days after the end of the quarter, the registrar is instructed to cut off the supply, after sending a special notice that the water will be cut off for non-payment.

When water is required for purposes which are not specified in the foregoing tariff, the rate shall be fixed by the board.

The board shall have the power to prevent the erection of yard hydrants, and to establish such regulations as they may deem expedient for the construction of water closets hereafter; and the water shall not be supplied to any building unless the water closets shall be made conformable to such regulations.

This ordinance to take effect May 1, 1892.

[*Adopted December* 29, 1891.]

An Ordinance in Amendment of the Revised Ordinances of 1889.

Be it ordained by the City Council of the City of Cambridge, as follows:

The Revised Ordinances of 1889 are hereby amended in the following particulars, viz:

In chapter 5, Section 2. In the first line after the word "mayor" by inserting the words "president of the board of aldermen and". In the second line by striking out the words "and one member of the board of aldermen." Also by striking out all after the word "fund" in the same section.

In Chapter 28, Section 2. In the first line, by striking out the word "elected" and inserting in place thereof the words "appointed by the mayor subject to confirmation by the board of aldermen." In the second and third lines, by striking out the words "in convention of the city council." By striking out the entire second sentence in the same section, included in the fifth to the eleventh lines. By striking out the word "thereafter" in the eleventh line, and by inserting after the word "two" in the same line, the words, "citizens at large shall be appointed by the mayor subject to confirmation by the board of aldermen

as." In the twelfth line by striking out the words "shall be elected annually by the city council." In the fifteenth line by striking out the word "elected" and inserting the word "appointed."

In Chapter 30, Section 2. By inserting in the first line, before the word "common," the words, "board of aldermen and president of the." In the second line, after the word "council," by striking out the words "*ex officiis* and one member of the board of aldermen and two members of the common council." By striking out all after the word "fund" in the same section.

In Chapter 42, Section 1. In the second line, by striking out the word "mayor," and inserting in its place the words "president of the board of aldermen." In the fourth line by striking out the words "elected by the city council by ballot," and inserting in place thereof the words, "appointed by the mayor subject to the confirmation of the board of aldermen." In the fifth line by striking out the word "elected," and inserting the word "appointed." In the seventh line, by striking out the words "city council" and inserting the word "mayor." In the same line, after the word "June," by inserting the words "appointed subject to the confirmation of the board of aldermen." In the eighth line, by striking out the words "elect in joint convention." In the eleventh line, by striking out the word "elected" and inserting the word "appointed." In the thirteenth line by striking out the word "chosen" and inserting the word "appointed." In the fourteenth line by striking out the word "elected" and inserting the word "appointed." In the fifteenth and sixteenth lines by striking out the words, "and any member may be removed for cause by concurrent vote of both branches of the city council." In the seventeenth line by striking out the word "elected" and inserting the word "appointed."

In the same chapter, Section 2. In the second line by striking out the word "elected" and inserting the word "appointed."

In the same chapter, Section 3. In the twelfth line, by inserting before the word "subordinate," the word "other."

As amended the aforesaid sections will read as follows :

CHAPTER 5.

BRIDGE CHARITABLE FUND.

SECT. 2. The mayor, president of the board of aldermen, and president of the common council, shall be the trustees of said fund.

CHAPTER 28.

THE PUBLIC LIBRARY.

SECT. 2. There shall be appointed by the mayor, subject to confirmation by the board of aldermen, annually in the month of January, or whenever a vacancy may occur, one member of the board of aldermen, one member of the common council, and one member of the school committee to serve for the current municipal year.

In January, of each year, two citizens at large shall be appointed by the mayor, subject to confirmation by the board of aldermen, as trustees as aforesaid, to hold office for the term of three years from the third Monday of the January of the year in which they are appointed, and in case of a vacancy in any of the above cases for the unexpired portion of the term.

CHAPTER 30.

SANDERS TEMPERANCE FUND.

SECT. 2. The mayor and president of the board of aldermen and president of the common council, shall be the trustees of said fund.

CHAPTER 42.

WATER-WORKS.

SECTION 1. The Cambridge water board shall consist of seven persons,—the president of the board of aldermen and president of the common council, *ex officiis*, and five other persons, residents of the city, to be appointed by the mayor, subject to the confirmation of the board of aldermen. One of the persons so appointed shall go out of office on the thirtieth day of June in each year.

The mayor shall annually, in the month of June, appoint, subject to the confirmation of the board of aldermen, one member of the board, to hold office for the term of five years, to fill the

vacancy caused by the term so expiring. Any vacancy shall be filled in the same manner, and the person appointed to fill a vacancy shall hold office for the remainder of the term for which his predecessor was appointed. Said member shall, in addition to the above term, hold office until others are appointed in their places. No member of the city council shall be appointed a member of the board.

SECT. 2. The president of the board shall be elected by the board, and shall be one of the five persons appointed as provided in the first section of this chapter. The board may choose a clerk, and make such rules and regulations for its own government and in relation to all officers appointed by the board, as it may deem expedient.

SECT. 3. The board, so constituted and organized, shall have and exercise all the powers vested in the city council by the legislature, by the one hundred and fifty-third chapter of the acts of eighteen hundred and sixty-five, and by the one hundred and sixty-fifth chapter of the acts of eighteen hundred and seventy-five, and by the two hundred and fifty-sixth chapter of the acts of eighteen hundred and eighty-four, and by the one hundred and thirty-seventh chapter of the acts of eighteen hundred and eighty-eight, and by any acts in addition to any of said acts, so far as the same can be legally delegated; and they may appoint a superintendent, water registrar, and all other subordinate agents and assistants, and fix their compensation and that of the clerk before mentioned, subject to the approval of the committee on finance.

[*Adopted December* 29, 1891.]

MAYORS

OF

THE CITY OF CAMBRIDGE,

FROM 1846 TO 1892.

James D. Green . . .	from	May,	1846,	to April,	1848
Sidney Willard . . .	"	April,	1848,	to April,	1851
George Stevens . . .	"	April,	1851,	to April,	1853
James D. Green . . .	"	April,	1853,	to April,	1854
*Abraham Edwards .	"	April,	1854,	to January,	1855
Zebina L. Raymond .	"	January,	1855,	to January,	1856
John Sargent	"	January,	1856,	to January,	1860
†James D. Green . .	"	January,	1860,	to July 24,	1861
‡Chas. Theo. Russell .	"	July 31,	1861,	to January,	1863
George C. Richardson	"	January,	1863,	to January,	1864
Zebina L. Raymond . .	"	January,	1864,	to January,	1865
J. Warren Merrill .	"	January,	1865,	to January,	1867
Ezra Parmenter . .	"	January,	1867,	to January,	1868
Chas. H. Saunders . .	"	January,	1868,	to January,	1870
Hamlin R. Harding .	"	January,	1870,	to January,	1872
Henry O. Houghton .	"	January,	1872,	to January,	1873
Isaac Bradford . . .	"	January,	1873,	to January,	1877
Frank A. Allen . . .	"	January,	1877,	to January,	1878
Samuel L. Montague .	"	January,	1878,	to January,	1880
James M. W. Hall . .	"	January,	1880,	to January,	1881
James A. Fox	"	January,	1881,	to January,	1885
William E. Russell .	"	January,	1885,	to January,	1889
Henry H. Gilmore . .	"	January,	1889,	to January,	1891
Alpheus B. Alger . .	"	January,	1891.	Now in office.	

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*Municipal year changed. †Resigned. ‡First elected by the City Council.

GOVERNMENT

OF THE

CITY OF CAMBRIDGE,

1892.

Mayor.

HON. ALPHEUS B. ALGER.

Aldermen.

WILLIAM A. BANCROFT, *President.*

JAMES F. AYLWARD,
ROBERT B. BANCROFT,
WILLIAM A. BANCROFT,
WILLIAM E. DOYLE,
EDGAR R. CHAMPLIN,
JOHN R. FAIRBAIRN,
WILLIAM R. HOWLAND,
E. BURT PHILLIPS,
WILLIAM M. TOWNSEND,
EDWARD C. WHEELER.

Aldermen, by Wards.

Ward 1. Alderman W. A. BANCROFT.
" 2. Aldermen DOYLE, PHILLIPS, CHAMPLIN, WHEELER.
" 3. " AYLWARD and FAIRBAIRN.
" 4. " TOWNSEND and R. B. BANCROFT.
" 5. Alderman HOWLAND.

Clerk.

WALTER W. PIKE.

Common Council.

HERBERT A. CHASE, *President.*

Ward One.

BANCROFT G. DAVIS, ANDREW J. JONES,
MICHAEL F. MCGRATH, MARSHALL N. STEARNS.

Ward Two.

LOUIS F. BALDWIN, WELLINGTON FILLMORE,
FREDERICK W. MACDONALD, DOUGLASS OLIVE,
J. HENRY RUSSELL.

Ward Three.

PETER P. BLEILER, BERNARD J. BROGAN,
JOHN H. PONCE, JOHN T. SHEA.

Ward Four.

HERBERT A. CHASE, CHARLES W. CHENEY,
JAMES W. COLEMAN, WILLIAM F. MCCORMICK,
GEORGE W. SEAVERNS,

Ward Five.

WALTER H. LERNED, FRANK E. SANDS.

Clerk.

EDWARD J. BRANDON.

Page.

WILLIAM A. WALKER.

City Clerk.

WALTER W. PIKE.

Assistant City Clerk.

EDWARD J. BRANDON.

City Messenger.

FRANCIS L. PRATT.

COMMITTEES OF THE CITY COUNCIL.

Joint Standing Committees.

Accounts. Aldermen Phillips and Wheeler; Councilmen Macdonald, Sands and Coleman.

Almshouse. Aldermen Aylward and Howland; Councilmen Cheney, Baldwin and Brogan.

Assessors' Department. Alderman Townsend; Councilmen Stearns and Bleiler.

City Engineering. Aldermen Townsend and Phillips; Councilmen Jones, McGrath and Olive.

Claims. The President, and Aldermen Aylward, Phillips and Champlin; the President, and Councilmen Fillmore, Davis, Seaverns, Sands and Shea.

Finance. The President, and Aldermen Doyle, Phillips and Howland; the President, and Councilmen Russell, Davis, Lerned, Ponce and McCormick.

Fire Department. Aldermen Aylward and Wheeler; Councilmen Macdonald, Jones and McCormick.

Fuel. Aldermen Wheeler and R. B. Bancroft; Councilmen Fillmore, Coleman and Brogan.

Health. Aldermen Phillips and Aylward; Councilmen Seaverns, Olive and Bleiler.

Lamps. Aldermen Doyle and Wheeler; Councilmen McGrath, Cheney and Bleiler.

Ordinances. Aldermen Aylward and Townsend; Councilmen Davis, Russell and Lerned.

Printing. Aldermen Fairbairn and R. B. Bancroft; Councilmen Baldwin, Stearns and Sands.

Public Instruction. Aldermen Champlin and Wheeler; Councilmen Seaverns, Davis and Lerned.

Public Property. Aldermen Fairbairn and R. B. Bancroft; Councilmen Stearns, Fillmore and Cheney.

Roads and Bridges. Aldermen Doyle and Townsend; Councilmen Jones, Shea and Lerned.

Rules and Orders. Aldermen Fairbairn and Howland; Councilmen Baldwin, Seaverns and Olive.

Water Supply. Aldermen Wheeler and R. B. Bancroft; Councilmen McGrath, Olive and Brogan.

Legislative Matters. The President, and Aldermen Doyle and Champlin; the President, and Councilmen Russell, Davis and Ponce.

Standing Committees of the Board of Aldermen.

Bonds. Aldermen Aylward, Champlin and Howland.

Claims. The President, and Aldermen Aylward, Phillips and Champlin.

Fire Department. Aldermen Aylward, Champlin and Wheeler.

Health. Aldermen Phillips, Aylward and R. B. Bancroft.

Licenses. Aldermen Aylward, Phillips and Howland.

Police. Aldermen Fairbairn, Howland and R. B. Bancroft.

Roads and Bridges. Aldermen Doyle, Townsend and Wheeler.

Sewers. Aldermen Fairbairn, Townsend and Wheeler.

Street Railways. Aldermen Doyle, Townsend and Wheeler.

Rules and Orders. Aldermen Fairbairn, Howland and Champlin.

Elections and Returns. Aldermen Fairbairn, Doyle and Champlin.

Soldiers' Aid. Aldermen Townsend, W. A. Bancroft, Phillips, Fairbairn and Howland.

Committees of the Common Council.

Bills in the Second Reading. Councilmen Russell, Sands and McGrath.

Elections and Returns. Councilmen Baldwin, Davis and Ponce.

Enrolled Ordinances. Councilmen Macdonald, Stearns and Coleman.

Clerk of Committees.

John McDuffie.

City Auditor.

Harry T. Upham.

City Treasurer.

William W. Dallinger.

Board of Health.

E. Edwin Spencer, M.D., *City Physician, ex officio.*
(Term, three years. From 1892.)

William H. Whitney (appointed 1891).
Daniel H. Thurston (appointed 1892).
(Term, two years.)

Clerk.
John McDuffie.

Health Officer.
Edwin Farnham, M.D.

Surveyor of Highways.

His Honor the Mayor.

Assessors.

Andrew J. Green (term expires 1892).
Joshua G. Gooch (term expires 1893).
Joseph Whittemore (term expires 1894).
(Term, three years.)

Assistant Assessors.

Warren Ivers,
John M. Davis,
Daniel B. Shaughnessy.
John Lennon.
Daniel J. Hayes.

School Committee.

Alpheus B. Alger, Mayor, *ex officio*, *Chairman.*

WARD I.

Ellen A. Goodwin (term expires 1892).
Albert B. Hart (term expires 1893).
William T. Piper (term expires 1894).

WARD II.

James L. Paine (term expires 1892).
Robert O. Fuller (term expires 1893).
Phebe M. Kendall (term expires 1894).

WARD III.

Anne Clark Stewart (term expires 1892).
Edward B. Malley (term expires 1893).
William H. Clancey (term expires 1894).

WARD IV.

Francis V. B. Kern (term expires 1892).
Asa P. Morse (term expires 1893).
Charles F. Wyman (term expires 1894).

WARD V.

Frederick W. Taylor (term expires 1892).
George P. Johnson (term expires 1893).
Caroline P. Chase (term expires 1894).

(Term, three years).

Secretary.

Sanford B. Hubbard.

Superintendent of Schools.

Francis Cogswell.

Overseers of the Poor.

The MAYOR, *ex officio*, *Chairman*.

Stephen Anderson (term expires 1892).
Charles E. Vaughan (term expires 1893).
William W. Burrage (term expires 1894).
Charles Bullock (term expires 1895).
Charles Walker (term expires 1896).

(Term, five years).

Secretary.

David P. Muzzey.

Visitor.

Vespasian Danforth.

Warden of the Almshouse.

Martin L. Eldridge.

Assistant City Physician.

Lewis L. Bryant, M.D.

(Elected in April by the Overseers of the Poor, subject to the approval of the Mayor and Aldermen).

Cambridge Cemetery.

Commissioners.

GEORGE S. SAUNDERS, *Chairman.*

George S. Saunders (term expires 1893).
John F. O'Brien (term expires 1893).
William A. Bertsch (term expires 1894).
Isaac S. Pear (term expires 1894).
David Ellis (term expires 1895).
Nathan C. Lombard (term expires 1895).

(Term, three years).

Superintendent.

Charles S. Childs.

Trustees of the Cambridge Public Library.

Albert M. Barnes, *President.*

Alderman.	*Common Council.*	*School Committee.*
John R. Fairbairn.	Herbert A. Chase.	William T. Piper.

Citizens at Large.

Oliver H. Durrell (term expires 1893).
Albert M. Barnes (term expires 1893).
John H. H. McNamee (term expires 1894).
Alvin F. Sortwell (term expires 1894).
Samuel L. Montague (term expires 1895).
Thomas W. Higginson (term expires 1895).

Librarian.	*Secretary.*
Almira L. Hayward.	Oliver H. Durrell.

Cambridge Water Board.

The President of the Board of Aldermen and the President of the Common Council, *ex officiis.*

Chester W. Kingsley, *President* (term expires 1892).
Leander M. Hannum (term expires 1893).
John F. O'Brien (term expires 1894).
George H. Howard (term expires 1895).
James M. W. Hall (term expires 1896).

(Term, five years.)

Clerk.

Walter H. Harding.

Superintendent of Water Works.

Hiram Nevons.

Pumping Engineer.

Edwin C. Brooks.

Water Registrar.

Walter H. Harding.

Trustees of Sinking Fund of Water Loan.

The MAYOR, City Treasurer, and President of the Common Council, *ex officiis.*

Commissioners on Sinking Funds of the City.

Charles H. Saunders (term expires 1892).
Frank A. Allen (term expires 1892).
John C. Bullard (term expires 1893).
George H. Howard (term expires 1893).
Joseph A. Holmes (term expires 1894).
Andrew J. Lovell (term expires 1894).

(Term, three years).

Trustees of the Sanders Temperance Fund.

The MAYOR, the President of the Board of Aldermen, and the President of the Common Council, *ex officiis*.

Trustees of the Bridge Charitable Fund.

The MAYOR, the President of the Board of Aldermen and the President of the Common Council, *ex officiis*.

Trustees of the Dowse Institute.

The MAYOR, and the President of the Common Council, *ex officiis*.
William W. Wellington. Willard A. Bullard.
Frank A. Allen.

Senators in General Court.

John Read.
Third Middlesex District, Wards 1, 2, 4, 5.

John W. Coveney.
Third Suffolk District, Ward 3.

Representatives in General Court.

Isaac McLean. Stephen Anderson.
William B. Durant. John Hopewell, Jr.
Horace E. Clayton. Malcolm E. Rideout.
Daniel H. Coakley.

Registrars of Voters.

John W. Coveney (term expires May 1, 1892).
Horace K. Osborn, *Clerk* (term expires May 1, 1893).
Isaac Bradford, *Chairman* (term expires May 1, 1894).
James Cox (term expires May 1, 1895).

One appointed annually, in March or April, to hold office four years.

Third District Court of Eastern Middlesex.

Standing Justice.

Charles Almy.

Special Justices.

Samuel W. McDaniel, Jabez Fox.

Clerk.

Emerson W. Law.

Probation Officer.

Frederick W. Hagar.

City Solicitor.

Charles J. McIntire.

City Engineer.

Lewis M. Hastings.

Superintendent of Sewers.

Theodore L. Pike.

Inspector of Wires.

Charles H. Morse.

Commissioner on West Boston, Craigie's, and Prison Point Bridges.

William J. Marvin.

Harbor Master.

William J. Marvin.

Superintendent of Streets.

Edgar H. Reed.

Superintendent of Public Buildings.

Benjamin H. Steele.

Superintendent of Lamps.

Charles H. Morse.

Board of Engineers.

Chief Engineer.

Thomas J. Casey.

Call District Chiefs.

Nathaniel W. Bunker, Charles W. Brackett,
William B. Cade,

Police Department.

Chief of Police.

Lothrop J. Cloyes.

Captains of Police.

District No. 1.	District No. 2.	District No. 3.
Thomas H. Lucy.	Mark J. Folsom.	John F. Murray.

Chief Inspector. *Inspector.*

Lawrence J. Ducey. Alonzo S. Harriman.

Court Officer.

Sergt. William F. Batchelder.

Sergeants of Police.

James S. Alexander. Andrew Sproul.
Charles L. Pike. Daniel Callahan.
Frederick B. Pullen. Dennis Corcoran.
William Mullett.

Policemen.

(With the numbers of their badges.)

No.		No.	
5	Apel, Frederick.	35	Ladd, Fred. L.
51	Aylward, Richard H.	23	Law, Frederick W.
7	Barrington, George T.	60	Lamb, Michael F.
28	Belcher, Edward F.	44	Marston, Charles C.
53	Blen, Elbridge S.	55	Maloy, John P.
69	Brennan, Michael J.	10	McBride, John J.
36	Butcher, William H.	30	McCarty, Jeremiah
15	Coffey, Michael	27	McCann, Charles J.
66	Coghlin, Francis J.	39	McCorry, Joseph F.
29	Conry, Michael J.	72	McCaffrey, Bernard
20	Corcoran, Timothy	26	McElroy, James L.
56	Coulter, John	64	McMenimen, William H.
71	Counihan, Daniel F.	57	McNamee, Hugh J.
25	Comerford, Edward J.	18	McNulty, James E.
34	Culhane, Michael	1	McCrehan, John E.
50	Dynan, Thomas F.	43	Murray, James E.
68	Deehan, John W.	45	Murray, Patrick F.
40	Doyle, Patrick	4	Neilon, Michael
8	Furbush, Joseph H.	52	Priest, Charles W.
38	Ginty, Michael A.	59	Real, Thomas J.
2	Graves, William H.	62	Roper, Bernard J.
41	Griffith, John J.	31	Robertson, William H.
9	Hall, James P.	70	Robinson, Fred A.
12	Hartnett, Timothy J.	46	Scobey, Frank W.
14	Higgins, Benj. F.	6	Shackford, Leonard
49	Hiscock, Simon D.	65	Shaughnessy, John E.
47	Hixon, Robert T.	63	Skelley, John W.
22	Hooper, Moses W.	21	Smyth, George
58	Holt, James H. H.	24	Stevens, David A.
33	Howe, William H. H.	67	Sullivan, Thomas F.
37	Hurley, Patrick J.	61	Sullivan, Cornelius
11	Jones, Henry C.	42	Wells, John H.
19	Joyce, Edward	3	White, Orrin B.
17	Jewett, Dexter	54	Wiley, John
32	Keaney, James M.	48	Winslow, John E.

Matrons of Police.

Mrs. E. S. Hains, Mrs. A. M. Stearns.

Policemen without pay (within the civil service).

William H. Aberle,
Horace A. Allyn,
Oliver W. Balcom,
Richard Balmer,
John A. Bartlett,
William H. Bates,
Edmund R. Blinn,
Charles F. Bowman,
Charles W. Brackett,
John B. Brady,
James T. Brassil,
Timothy J. Breen,
James K. Bresnan,
Daniel A. Buckley,
Ferdinand N. Buffum,
Nathaniel W. Bunker,
William Burgess,
James Burke,
Samuel Busnach,
William B. Cade,
William H. Cairns,
William H. Carroll,
James Carter,
Thomas J. Casey,
Moses M. Child,
Charles S. Childs,
Ambrose H. Clark,
Noah M. Cofran,
John Collier,
Patrick Corcoran,
Vespasian Danforth,
Abner R. Davis,
Daniel K. Dinsmore,
Patrick F. Dunlea,
Martin L. Eldridge,
Luther F. Fleming,
Thomas Flynn,
Oliver G. Fosdick,
William Foster,
James H. Furfey,
James J. Garvin,
Charles A. Gay,
Eli L. Goodrow,
James Grant,
Henry L. Hale,
Luther Hapgood,
John L. Harrington,
John A. Hezlitt,
Thomas M. Howard,
J. Lewis Howe,
William Hunnewell,
Samuel F. Hunt,
Thomas W. Jones,
Frank W. Keaney,
Conrad D. Kinnear,
Joseph P. Kline,
Michael F. Lamb, Jr.,
William B. Lehmkuhl,
James W. Lovering,
Francis M. Mason,
Jeremiah S. McCabe,
John H. McCarthy,
John B. McGovern,
Benjamin McKeen,
James McLean,
George W. Montgomery,
Thomas Montgomery,
William N. Mullins,
Simon J. Mulvaney,
Dennis Murphy,
Michael Murphy,
Nathaniel M. Neal,
Augustus W. Nelson,
Hiram Nevons,
James H. Newman,
Francis A. Osborn,

George A. Parmenter,
Francis L. Pratt,
Charles L. Russell,
Charles M. Sanborn,
Joshua S. Sanborn,
John T. Shea,
Andrew G. Smith,
Gideon Smith,
James W. Thompson,
Clarence H. Whiting,
James F. Wilkinson,
George Wood,

Policemen (without pay.)

Robert Alexander,
Walter J. Anderson,
Andrew J. Ayer,
Edwin C. Brooks,
Edward G. Bucknam,
Thomas C. Butler,
John I. Carroll,
Elisha B Caution,
William H. Churchill,
John Clark,
Patrick Clark,
Frederick Clover,
John Coffey,
John T. Cook,
Edward E. Coye,
Patrick Cronin,
Charles W. Dailey,
Charles O. Dam,
John M. Day,
Thomas C. Deehan,
John Dillon,
James Doherty,
Rufus S. Downe,
James F. Dunn,
George Eastman,
Harry Ellis,
Thomas Elworth,
Rudolph Erhardt,
William E. Eyles,
Denis J. Farrell,
Antonio Francis,
Frank Frates,
James E. Furguson,
Charles B. Gordon,
James A. Gorman,
Frank C. Hatch,
Armon A. Kiner,
George P. Knowlton,
Horace D. Litchfield,
Herbert E. Lombard,
Kenney C. Lowell,
William L. Lyon,
James Main,
William Marsman,
John McCauley,
William McClain,
Angus S. McDonald,
Arthur F. Miller,
Patrick Murphy,
William Murphy,
John O'Brien,
John A. O'Connor,
George R. Oliver,
Harlan Z. Page,
Robert A. Parry,
Melvin W. Perry,
Robert T. B. Pierce,
William E. Potter,
Anton J. Rice,
B. Frank Robinson,
Robert Roger,
Frank Russell,

James A. Saunders,
James C. Scorgie,
Peter Shea,
Alex. F. Shepherd,
Joseph S. Skelton,
John A. Solari,
Rolly Stovvoll,
John Sullivan,
Richard W. Sutton,
Samuel H. Swain,
Samuel E. Tasco,
Edgar L. Wentworth,
Wesley Wile.

Keeper of Lock-ups.

Lothrop J. Cloyes.

Truant Officers.

Moses M. Child, John Collier.
Francis M. Mason.

Constables.

George T. Barrington,
William F. Batchelder,
Michael S. Busnach,
Edward F. Chase.
Lothrop J. Cloyes,
Vespasian Danforth,
John M. Davis,
Lawrence J. Ducey,
John R. Fairbairn,
Mark J. Folsom,
William A. Ford,
Joseph Fox.
Alonzo S. Harriman,
Appleton Hubbard,
Warren Ivers,
John Lennon,
P. Allen Lindsey,
John Loughrey,
Thomas H. Lucy,
Frank H. Lull,
Frederic A. Lull,
James I. Murphy,
John F. Murray.
Daniel B. Nash,
Thomas C. Scottron,
Frank E. Shaw,
John W. Skelley,
Arthur M. Stewart,
Edward M. Williams.

Undertakers.

John W. Coveney,
David F. Corcoran,
Thomas Devens,
David Fudge,
Samuel F. Hunt,
George H. Kelley,
Joseph J. Kelley,
Gustavus King,
Horace D. Litchfield,
Judson Litchfield,
C. Henry Lockhart,
Abiel E. Long,
James F. Mullen,
George F. Ricker,
John J. Ross,
William Ross,
James J. Shea,
John T. Shea,
William A. Taylor,
Benjamin F. Wyeth,
Henry A. Wyeth.

Auctioneers.

William H. Adsit,
John K. Abbott,
Daniel A. Buckley,
William H. Briggs,
Jeremiah W. Coveney,
John W. Coveney,
Watson G. Cutter,
William R. Ellis,
John R. Fairbairn,
Max Frankenstein,
Leander M. Hannum,
Stephen H. Harrington,
Samuel W. Joel,
John Lennon,
P. Allen Lindsey,
Frederic A. Lull,
James H. McCormick,
Charles L. Phillips,
Stephen J. Riley,
Edmund E. Sanborn,
Humphrey L. Snow,
Francis Traynor,
Stephen W. Trowbridge,
Julius D. Whipple.

Fence Viewers.

Lewis W. Hastings, Colin Chisholm, Abel Stevens.

Field Drivers.

James S. Alexander,
Frederick Apel,
Richard H. Aylward,
George T. Barrington,
William F. Batchelder,
Edward F. Belcher,
Elbridge S. Blen,
Michael J. Brennan,
William A. Butcher,
Daniel Callahan,
Michael Coffey,
Francis J. Coghlin,
Edward J. Comerford,
Michael J. Conry,
Dennis Corcoran,
Timothy Corcoran,
John Coulter,
Daniel F. Counihan.
Michael Culhane,
John W. Deehan,
Patrick Doyle,
Thomas F. Dynan,
Joseph H. Furbush,
Michael A. Ginty,
William H. Graves,
John J. Griffiths,
James P. Hall,
Timothy J. Hartnett,
Benjamin F. Higgins,
Simon D. Hiscock,
Robert T. Hixon,
James H. H. Holt,
William H. H. Howe,
Patrick J. Hurley,
Henry C. Jones,
Edward Joyce,

James M. Keaney,
Frederick L. Ladd,
Frederick W. Law,
John P. Maloy,
Charles C. Marston,
John J. McBride,
Bernard McCaffrey,
Charles J. McCann,
Jeremiah McCarthy,
Joseph F. McCorry,
John E. McCrehan,
James McElroy,
William H. McMenimen,
Hugh J. McNamee,
James E. McNulty,
William Mullett,
James E. Murray,
Patrick F. Murray,
Michael Neilan,
Charles L. Pike,
Charles W. Priest,
Frederick B. Pullen,
Thomas J. Real,
William H. Robertson,
Frederick W. Robinson,
Bernard J. Roper,
Frank W. Scobey,
Leonard Shackford,
John E. Shaughnessy,
John W. Skelley,
George Smyth,
David A. Stevens,
Cornelius Sullivan,
Thomas F. Sullivan,
John H. Wells,
John Wiley,
Orrin B. White.

Measurers of Wood and Bark.

Herbert T. Lawrence,
Robert A. Parry,
Albert G. Phelps.
Joshua S. Sanborn,
Henry B. Sellon,

Pound-Keeper.

Arthur F. Miller.

Committee for the Preservation of Fish.

Lewis W. Hastings,
Edward B. James.
Theodore L. Pike,

Hay Weighers.

Thomas Gurnham,
Joshua S. Sanborn,
Henry B. Sellon.
Timothy Sullivan,

Coal Weighers.

Frank E. Bailey,
Hiram W. Brooks,
Silas E. Buck,
Edward E. Coye,
Walter F. Grieves,
Fred A. Humiston,
Herbert T. Lawrence,
Charles H. Lealand,
Thomas H. Matthews,
John Moynahan,
John E. A. Mulliken,
Amos Pettingill,
Joshua S. Sanborn,
Frank H. Tyler,
Alfred H. Wellington,
Ernest H. Wellington.

Weigher of Boilers and Heavy Machinery.

Joshua S. Sanborn.

Inspectors of Junk Shops, Pawnbrokers' Shops and Second-hand Clothing Stores and Dealers.

Lawrence J. Ducey,
Mark J. Folsom,
Alonzo S. Harriman,
Thomas H. Lucy,
John F. Murray.

Sealer of Weights and Measures.

Albert F. Roberts.

Weighers.

Leonard R. Bacon,
Isaac A. Chandler,
James W. Coleman,
William L. Ducey,
John Guiney,
Charles F. Hittinger,
Nathan H. Holbrook,
Henry Hooker,
William Maloney,
Arthur F. Miller,
Alfred Morrill,
George L. Murdock,
Walter H. Murdock,
Robert S. Paine,
John Reardon, Jr.,
Joshua S. Sanborn,
James J. Scully,
Thomas H. Shea,
Frank H. Tyler,
Alexander Wight.

Inspector of Milk.

Frank A. Dunbar.

Inspector of Vinegar.

Frank A. Dunbar.

Inspector of Provisions and Animals Intended for Slaughter.

Lothrop J. Cloyes.

Person to Receive Information of Damages Done by Dogs.
(Ch. 454, Acts of 1889.)

Lothrop J. Cloyes.

Persons to Cause to be Properly Interred the Bodies of Soldiers and Sailors.

Cornelius G. H. Bennink,
John W. Coveney,
William H. Eveleth,
Joseph J. Kelley.

Surveyors of Mechanics' Work.

Charles A. Mason,
John S. Pollard.

Measurer and Surveyor.

Henry L. Hale.

Inspector of Charcoal Baskets.

Albert F. Roberts.

Measurer of Grain.

Albert F. Roberts.

CONTENTS.

	Page
Mayor's Address	3
Report of Auditor of Accounts	49
Receipts during the year	49
Expenditures	50
Bonds Issued	51
City Debt	52
Water Works Debt	52
Funded Debt	53
Funded Water Debt	55
Temporary Loan	56
Sinking Funds	56
Trust Funds	56
Cemetery Fund	57
Abatements, Taxes	58
Taxes	59
Valuations, Polls, Dwellings, and rate of Taxation (for 10 years)	60
Abatement and Discounts (for 10 years)	60
Valuation for 3 years	61
Borrowing Capacity	61
City Liabilities	62
Assets	62
Detailed Statement of Receipts, Expenditures, and Appropriations	63
Transfers	64
Assessor's Department	68
Auditor's Department	69
Bridge (Harvard)	69
Bridges (West Boston, Craigie's and Prison Point)	71
Cemetery	73
Cambridge Public Library	75
City Clerk's Department	77
City Messenger's Department	79
City Treasurer's Department	79
Civil Service	81
Clerk of Committee Department	81
Election Expenses	81
Engineering	83
Executive Department	85

Page

RECEIPTS, EXPENDITURES, ETC. — *Continued.*

Fire Department 85
Health Department 90
Incidental Expenses 91
Inspector of Milk and Vinegar 94
Inspector of Wires 95
Interest 96
Law Department 97
Lighting Streets 98
Pauper Department (Almshouse) 99
Pauper Department (Salary of Assistant City Physician) . 109
Police Department 109
Public Property (City Buildings, Care and Repairs) . . . 113
Public Property, Incidentals 119
Public Property, New City Hall (Furnishing) 120
Public Property (New Engine House in Ward Four) . . 121
Public Property, School Houses (Care and Repairs) . . 122
Public Property (New High School House) 125
Public Property (New School House Ward Four) . . . 126
School Department (Incidental Expenses) 127
School Department (Salaries) 127
School Department (Text Books and Supplies) 128
Sealer of Weights and Measures 131
Sewers (Construction) 133
Sewers (Maintenance) 134
Sinking Funds 137
State Aid 137
Stationery and Printing 138
Street Department:
Bridges 139
Extension and Widening 140–141
Completion of Front Street 142
Maintenance and Collecting Ashes 144
Paving 152
Shade Trees and Public Grounds 154
Watering 155
Water Works (Construction) 156
Water Works (Construction, Fresh Pond) 158
Water Works (Construction, Stony Brook) 159
Water Works (Interest on Water Loan) 160
Water Works (Maintenance) 160
Water Works (Rates, Fines, etc.) 166
Water Works (Abatements) 167
Water Works (Rates, Fines, etc., Refunds) 167
Water Works (Sinking Funds) 167
Water Works (Supplies) 168

	Page
Property Exempt from Taxation	171
Real Estate Owned by the City	178
Report of Committee on Accounts	187
Committee on Finance	188
Polls and Valuations	192
Report of the City Treasurer	195
Commissioners of Sinking Fund of the City	198
The Trustees of Sinking Fund of Cambridge Water Works	203
Trustees of Dowse Institute	206
Trustees of Bridge Charitable Fund	208
Trustees of Sanders Temperance Fund	210
Sanders Temperance Fund Missionary	211
Overseers of the Poor	213
Report of the Superintendent of the Almshouse	218
Assistant City Physician	227
Report of City Clerk (Fees)	229
City Treasurer (Fees)	230
City Messenger	231
Trustees of the Camrridge Public Liarary	232
The Librarian	237
Committee on Public Property	244
The Superintendent of Public Buildings	252
The Inspector of Buildings	269
The Committee on Soldiers' Aid	273
Commissioners of the Cemetery	274
City Engineer	278
Bridges	279
Streets	283
Sewers	284
Water Works	291
Report of Superintendent of Sewers	290
Superintendent of Streets	294
Bridge Commissioner	311
Water Board	315
The Registrar	325
Committee on Accounts of Water Board	332
Superintendent of Water Works	337
The Engineer of the Pumping Station	361
Chief Engineer of the Fire Department	364
Chief of Police	390
Board of Health	397
Superintendent of Lamps	418
Sealer of Weights and Measures	423
Milk and Vinegar Inspector	425
Inspector of Wires	431

Page

REPORT OF SCHOOL COMMITTEE 434
ORDINANCES PASSED IN 1891:
Streets 475
Water Works 475
Water Works, ... 476
Assessors and Taxes 476
Police Signal Boxes 477
Salaries 477
Inspector of Wires 478
Fire Department 479
Inspection and Construction of Buildings 489
Streets 491
Water Works 491
Sewers 492
Mayor (Salary) 493
Water Works 493
Amendments to Sundry Ordinances 496
MAYORS, 1846–92 501
MUNICIPAL REGISTER 502

7929 .11
167